

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

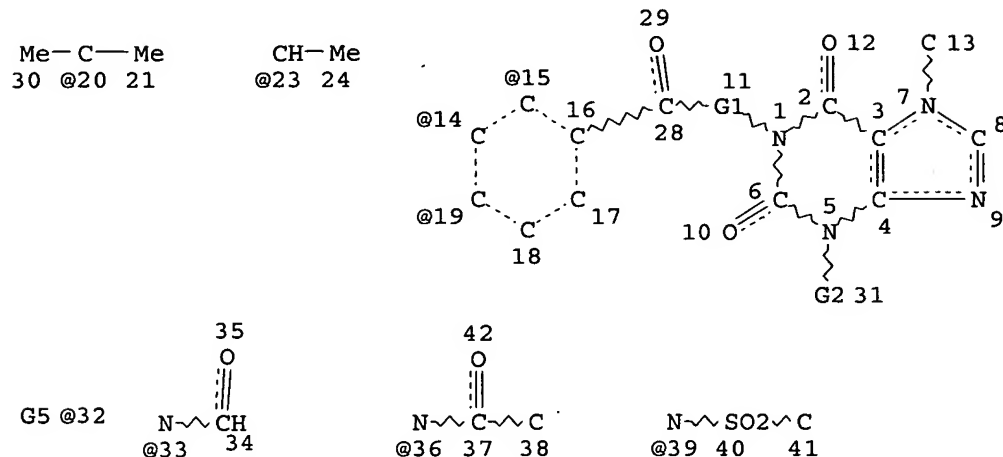
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 27

STEREO ATTRIBUTES: NONE

L12 35177 SEA FILE=REGISTRY SSS FUL L9

L13 STR



VAR G1=CH2/23/20

VAR G2=H/C

VAR G5=33/36/39

VPA 32-19/14/15 U

NODE ATTRIBUTES:

NSPEC IS RC AT 13

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 38

STEREO ATTRIBUTES: NONE

L15 52 SEA FILE=REGISTRY SUB=L12 SSS FUL L13

100.0% PROCESSED 366 ITERATIONS

52 ANSWERS

SEARCH TIME: 00.00.01

*subset search  
done on this  
structure*

FILE 'CAPLUS' ENTERED AT 15:40:26 ON 12 MAY 2005

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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FILE 'USPATFULL' ENTERED AT 15:40:26 ON 12 MAY 2005

CA INDEXING COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

L18

8 L15

=> fil reg; d stat que l15; fil capl uspatf; s l15  
 FILE 'REGISTRY' ENTERED AT 15:40:26 ON 12 MAY 2005  
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
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Property values tagged with IC are from the ZIC/VINITI data file  
 provided by InfoChem.

STRUCTURE FILE UPDATES: 11 MAY 2005 HIGHEST RN 850303-40-1  
 DICTIONARY FILE UPDATES: 11 MAY 2005 HIGHEST RN 850303-40-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when  
 conducting SmartSELECT searches.

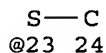
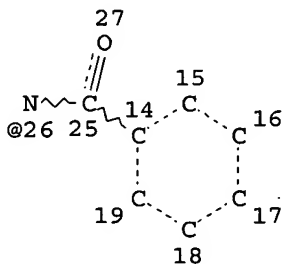
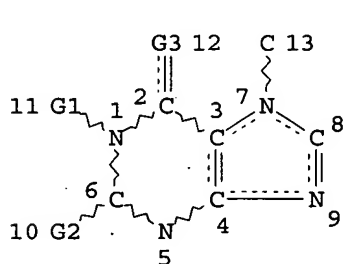
\*\*\*\*\*  
 \*  
 \* The CA roles and document type information have been removed from \*  
 \* the IDE default display format and the ED field has been added, \*  
 \* effective March 20, 2005. A new display format, IDERL, is now \*  
 \* available and contains the CA role and document type information. \*  
 \*  
 \*\*\*\*\*

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more  
 information enter HELP PROP at an arrow prompt in the file or refer  
 to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

L9

STR



*full file search  
 done on this  
 structure*

VAR G1=C/NH2/26/H  
 VAR G2=H/C/N/20/22/23  
 VAR G3=O/S

NODE ATTRIBUTES:

NSPEC IS RC AT 13  
 CONNECT IS E1 RC AT 22  
 DEFAULT MLEVEL IS ATOM

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PROCESSING COMPLETED FOR L18

L19 8 DUP REM L18 (0 DUPLICATES REMOVED)  
 ANSWERS '1-5' FROM FILE CAPLUS  
 ANSWERS '6-8' FROM FILE USPATFULL

=&gt; d ibib ed abs hitstr 1-8; fil hom

L19 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:182879 CAPLUS

DOCUMENT NUMBER: 140:235743

TITLE: Preparation of 8-[3-aminopiperidin-1-yl]xanthines as dipeptidylpeptidase-IV (DPP-IV) inhibitors.

INVENTOR(S): Himmelsbach, Frank; Langkopf, Elke; Eckhardt, Matthias; Mark, Michael; Maier, Roland; Lotz, Ralf Richard Hermann; Tadayyon, Mohammad

PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma G.m.b.H. &amp; Co. K.-G., Germany

SOURCE: PCT Int. Appl., 226 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

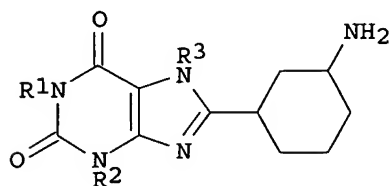
*WO JS  
as yet*

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004018468	A2	20040304	WO 2003-EP9127	20030818
WO 2004018468	A3	20040408		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10238243	A1	20040304	DE 2002-10238243	20020821
DE 10312353	A1	20040930	DE 2003-10312353	20030320
PRIORITY APPLN. INFO.:			DE 2002-10238243	A 20020821
			DE 2003-10312353	A 20030320

OTHER SOURCE(S): MARPAT 140:235743

ED Entered STN: 05 Mar 2004

GI



AB Title compds. (I; R1 = Me substituted by Me2NCO, pyrrolidin-1-ylcarbonyl, piperidin-1-ylcarbonyl, tert-butylcarbonyl, naphthyl, nitronaphthyl,

dimethylaminonaphthyl, phenyloxadiazolyl, quinoliny, indolyl, cinnoliny, benzothienyl, etc.; R2 = Me, Me2CH, Ph; R3 = 2-methyl-2-propen-1-yl, 2-chloro-2-propen-1-yl, 3-bromo-2-propen-1-yl, 2-buten-1-yl, 2,3-dimethyl-2-buten-1-yl, 2-butyne-1-yl, 1-cyclopenten-1-ylmethyl, 2-furylmethyl), were prepared. Thus, 1,3-dimethyl-7-(2,6-dicyanobenzyl)-8-bromoxanthine (preparation from 8-bromotheophylline and 2-bromomethylisophthalonitrile given), 3-aminopiperidine dihydrochloride, and K2CO3 were heated in DMF for 3 h at 80° to give 14% 1,3-dimethyl-7-(2,6-dicyanobenzyl)-8-(3-aminopiperidin-1-yl)xanthine. I inhibited DPP-IV with IC50 = 1-2160 nM.

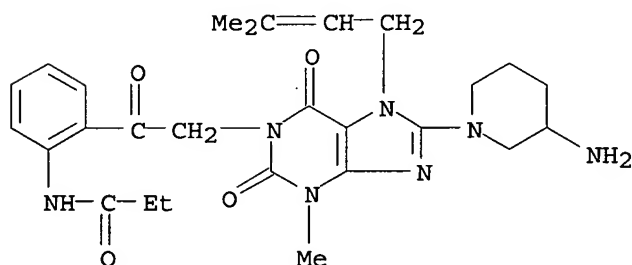
IT 668268-86-8P 668269-66-7P 668269-70-3P  
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668270-15-3P 668270-16-4P 668270-17-5P  
668270-19-7P 668270-21-1P 668270-22-2P  
668270-24-4P 668270-25-5P 668270-26-6P  
668270-27-7P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of aminopiperidinyloxanthines as dipeptidylpeptidase-IV inhibitors)

RN 668268-86-8 CAPLUS

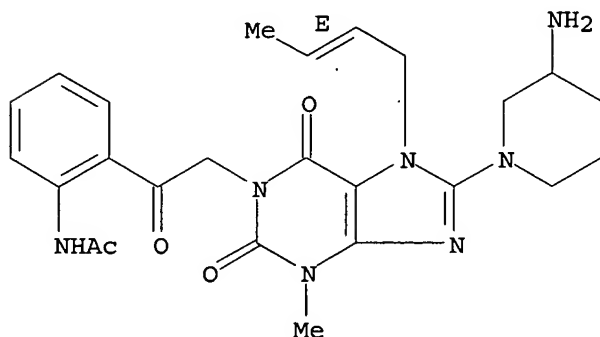
CN Propanamide, N-[2-[[8-(3-amino-1-piperidinyl)-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)



RN 668269-66-7 CAPLUS

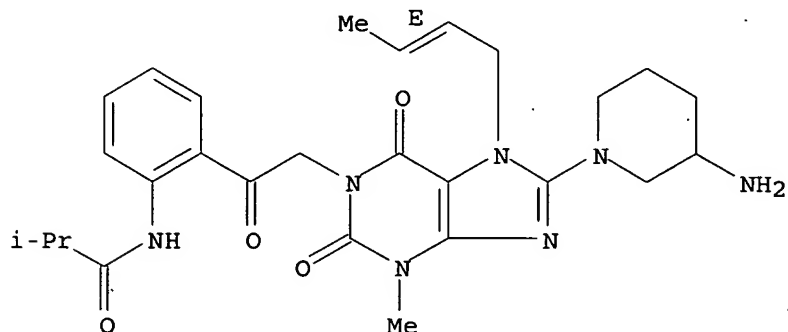
CN Acetamide, N-[2-[[8-(3-amino-1-piperidinyl)-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



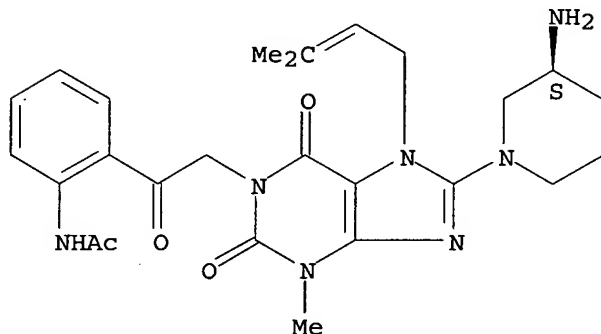
RN 668269-70-3 CAPLUS  
 CN Propanamide, N-[2-[[8-(3-amino-1-piperidinyl)-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI)  
 (CA INDEX NAME)

Double bond geometry as shown.

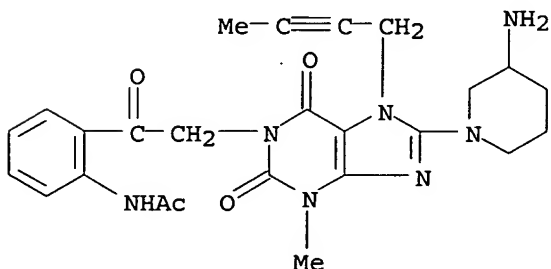


RN 668269-75-8 CAPLUS  
 CN Acetamide, N-[2-[[8-[(3S)-3-amino-1-piperidinyl]-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

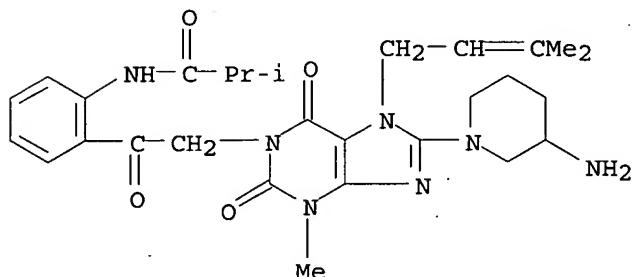
Absolute stereochemistry.



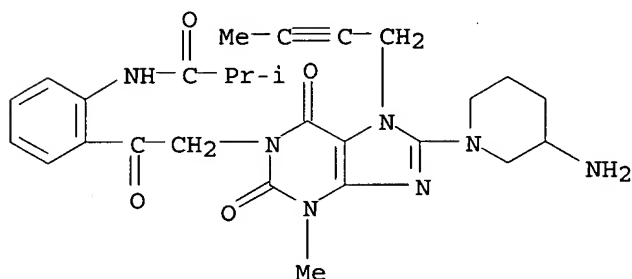
RN 668269-80-5 CAPLUS  
 CN Acetamide, N-[2-[[8-(3-amino-1-piperidinyl)-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)



RN 668269-86-1 CAPLUS  
 CN Propanamide, N-[2-[[8-(3-amino-1-piperidiny1)-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)

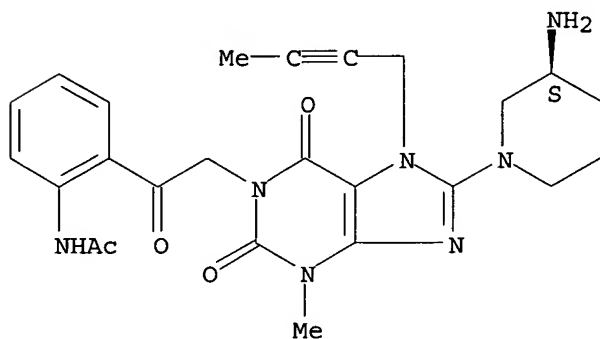


RN 668269-88-3 CAPLUS  
 CN Propanamide, N-[2-[[8-(3-amino-1-piperidiny1)-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)



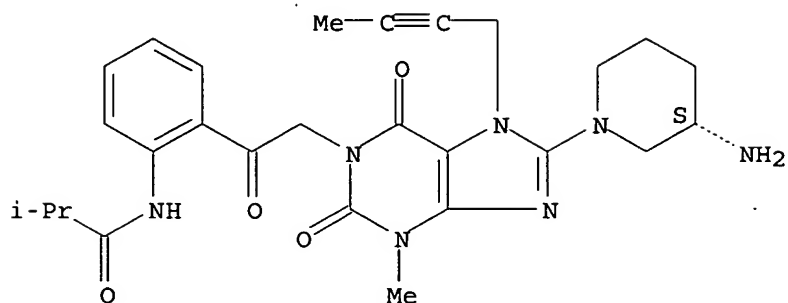
RN 668269-89-4 CAPLUS  
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Absolute stereochemistry.



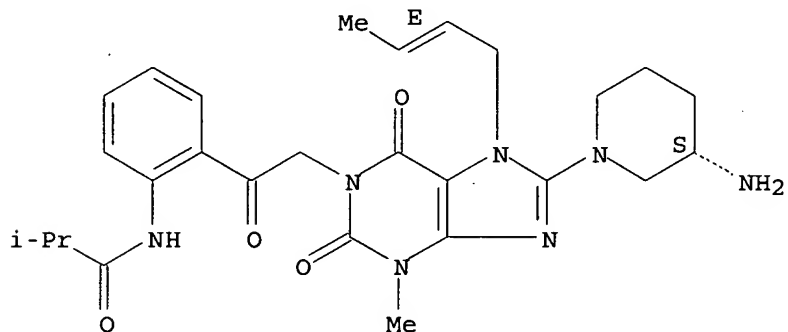
RN 668269-90-7 CAPLUS  
 CN Propanamide, N-[2-[[8-[(3S)-3-amino-1-piperidiny1]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI)

Absolute stereochemistry.



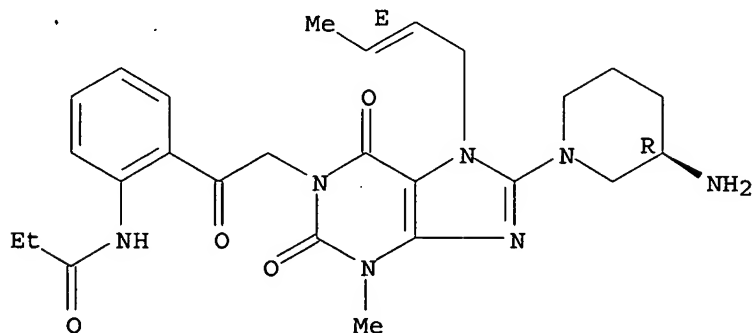
CN Propanamide, N-[2-[[[8-[(3S)-3-amino-1-piperidiny]]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.



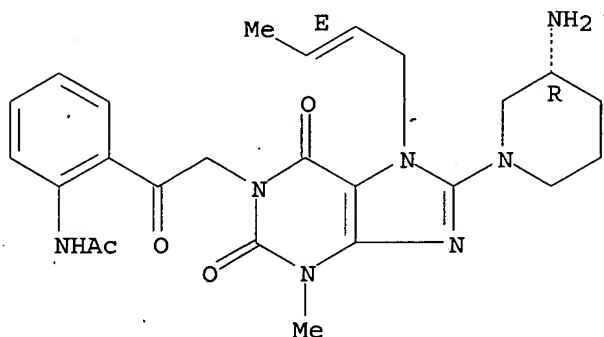
CN Propanamide, N-[2-[[8-[(3R)-3-amino-1-piperidinyl]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI)  
(CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.



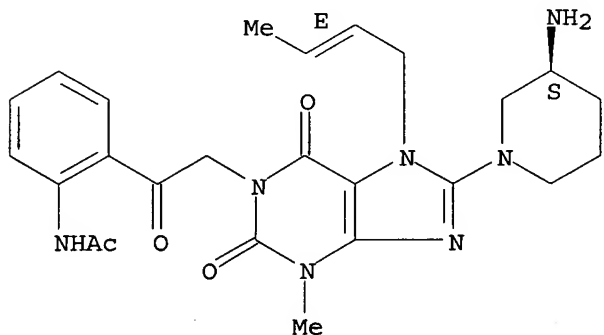
RN 668270-17-5 CAPLUS  
 CN Acetamide, N-[2-[[8-[(3R)-3-amino-1-piperidinyl]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
 Double bond geometry as shown.



RN 668270-19-7 CAPLUS  
 CN Acetamide, N-[2-[[8-[(3S)-3-amino-1-piperidinyl]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

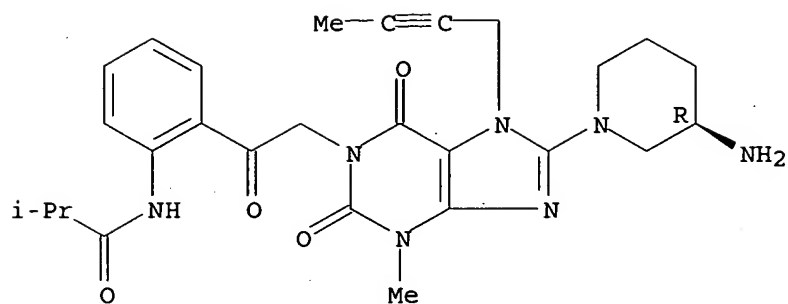
Absolute stereochemistry.  
 Double bond geometry as shown.



RN 668270-21-1 CAPLUS  
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Absolute stereochemistry.

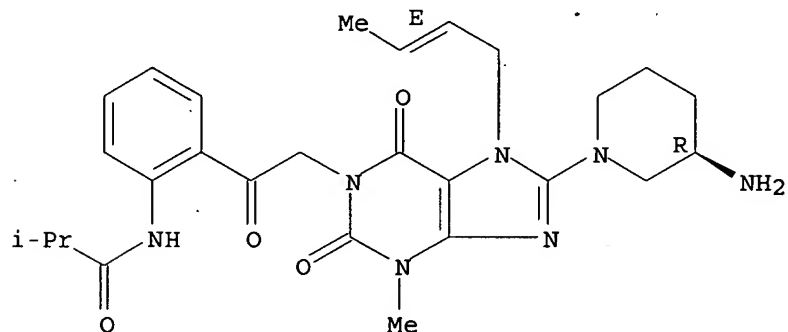




RN 668270-22-2 CAPLUS

CN Propanamide, N-[2-[[8-[(3R)-3-amino-1-piperidinyl]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)

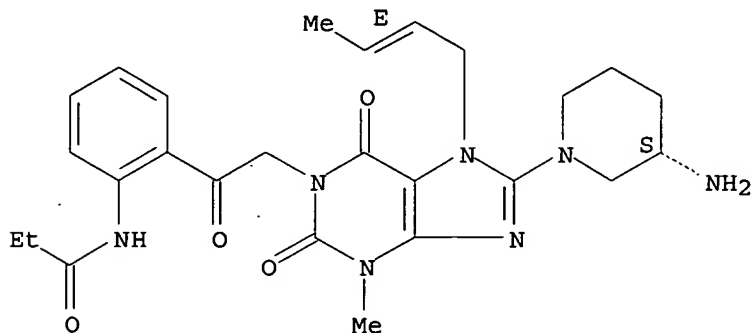
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668270-24-4 CAPLUS

CN Propanamide, N-[2-[[8-[(3S)-3-amino-1-piperidinyl]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.

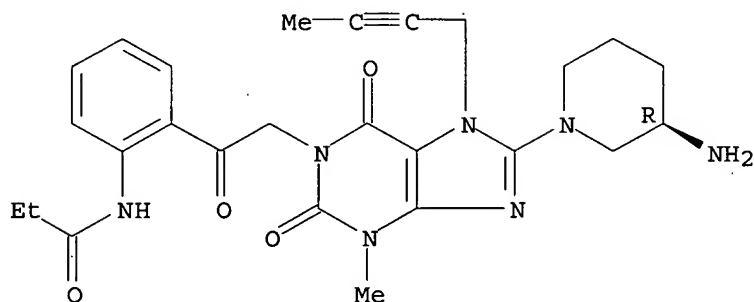


RN 668270-25-5 CAPLUS

CN Propanamide, N-[2-[[8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-

tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl] - (9CI) (CA INDEX NAME)

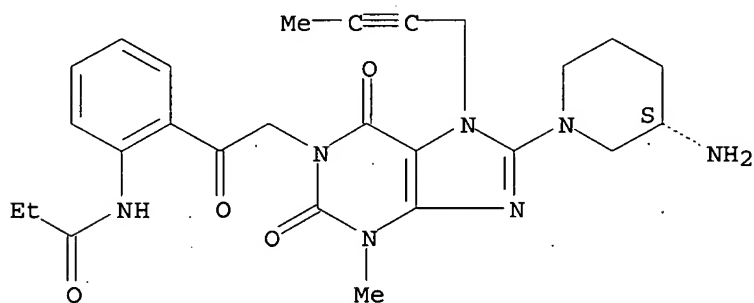
Absolute stereochemistry.



RN 668270-26-6 CAPLUS

CN Propanamide, N-[2-[[8-[(3S)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl] - (9CI) (CA INDEX NAME)

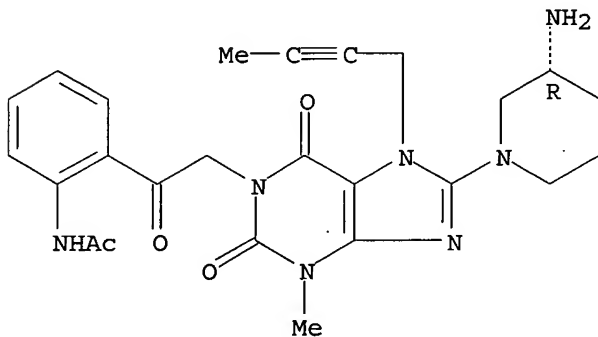
Absolute stereochemistry.



RN 668270-27-7 CAPLUS

CN Acetamide, N-[2-[[8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl] - (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 668274-99-5P 668275-01-2P 668275-02-3P

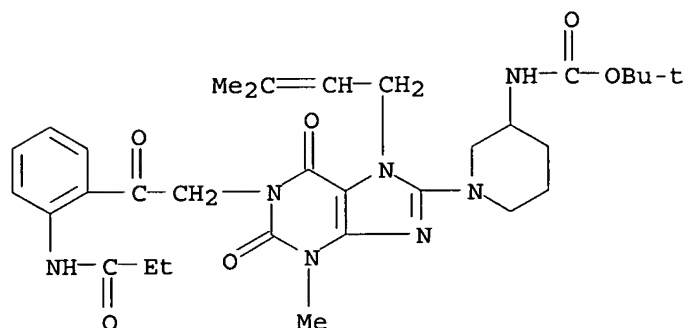
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 668275-13-6P 668275-14-7P 668275-15-8P  
 668275-16-9P 668275-17-0P 668275-18-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of aminopiperidinyloxanthines as dipeptidylpeptidase-IV inhibitors)

RN 668274-99-5 CAPLUS

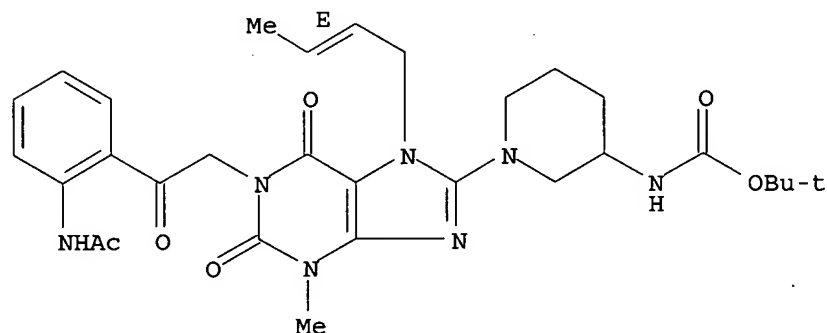
CN Carbamic acid, [1-[2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1-[2-oxo-2-[2-[(1-oxopropyl)amino]phenyl]ethyl]-1H-purin-8-yl]-3-piperidiny]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 668275-01-2 CAPLUS

CN Carbamic acid, [1-[1-[2-[2-(acetylamino)phenyl]-2-oxoethyl]-7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidiny]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

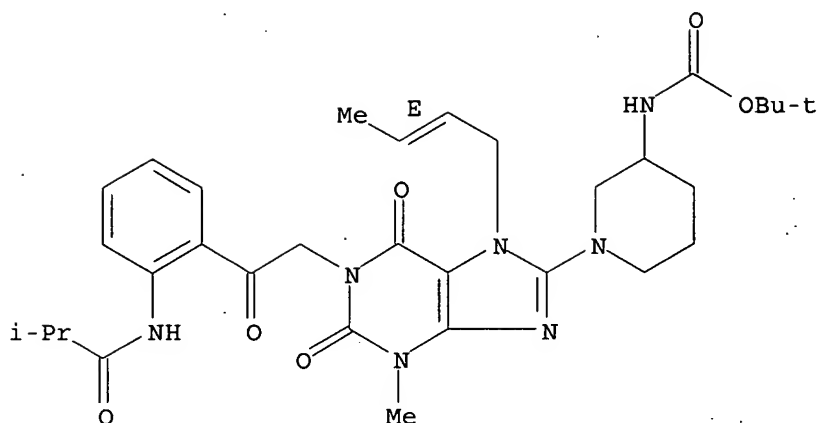
Double bond geometry as shown.



RN 668275-02-3 CAPLUS

CN Carbamic acid, [1-[7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidiny]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

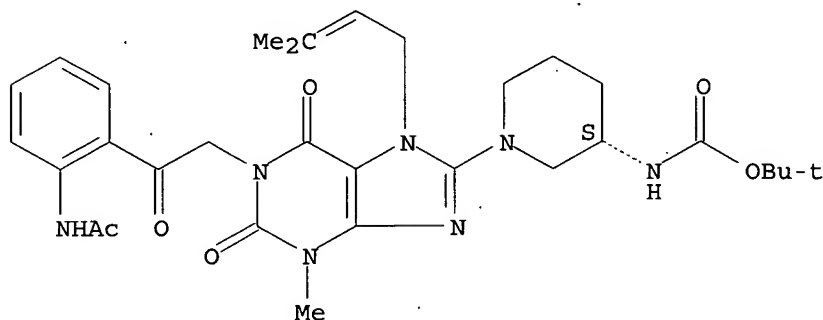
Double bond geometry as shown.



RN 668275-03-4 CAPLUS

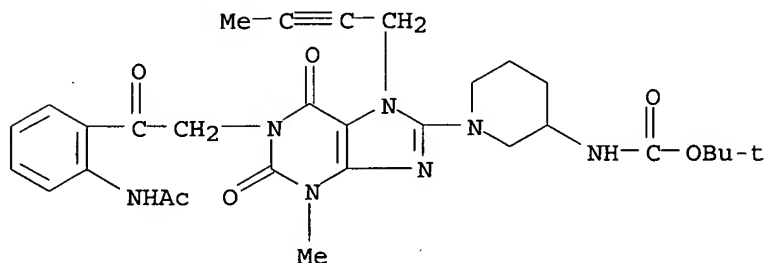
CN Carbamic acid, [(3S)-1-[1-[2-[2-(acetylamino)phenyl]-2-oxoethyl]-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



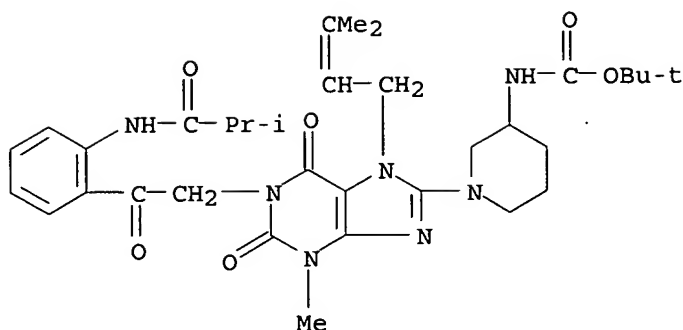
RN 668275-04-5 CAPLUS

CN Carbamic acid, [1-[1-[2-[2-(acetylamino)phenyl]-2-oxoethyl]-7-(2-butyryl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



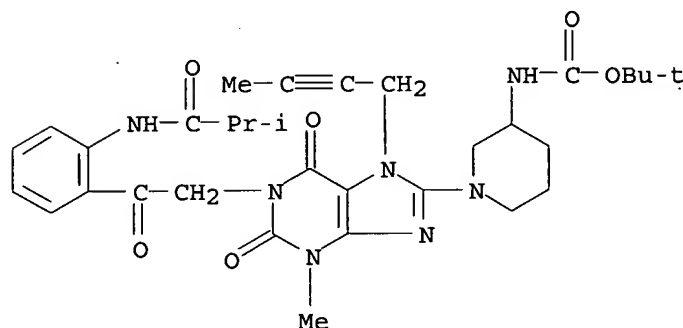
RN 668275-05-6 CAPLUS

CN Carbamic acid, [1-[2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



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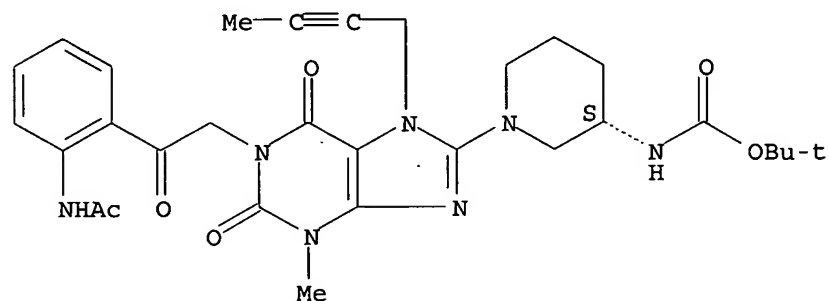
CN Carbamic acid, [1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 668275-07-8 CAPLUS

CN Carbamic acid, [(3S)-1-[1-[2-[2-(acetylamino)phenyl]-2-oxoethyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

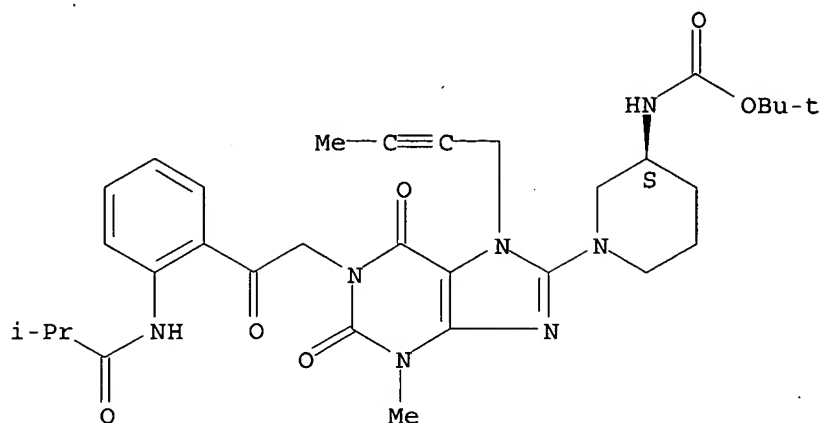
Absolute stereochemistry.



RN 668275-08-9 CAPLUS

CN Carbamic acid, [(3S)-1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

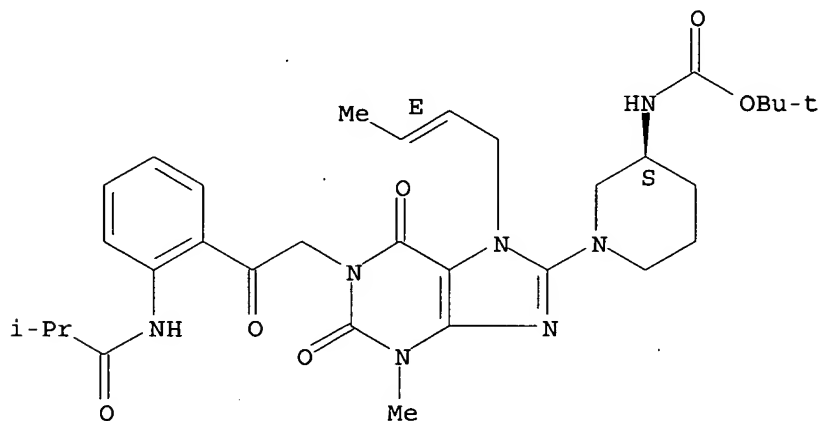
Absolute stereochemistry.



RN 668275-10-3 CAPLUS

CN Carbamic acid, [(3S)-1-[7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

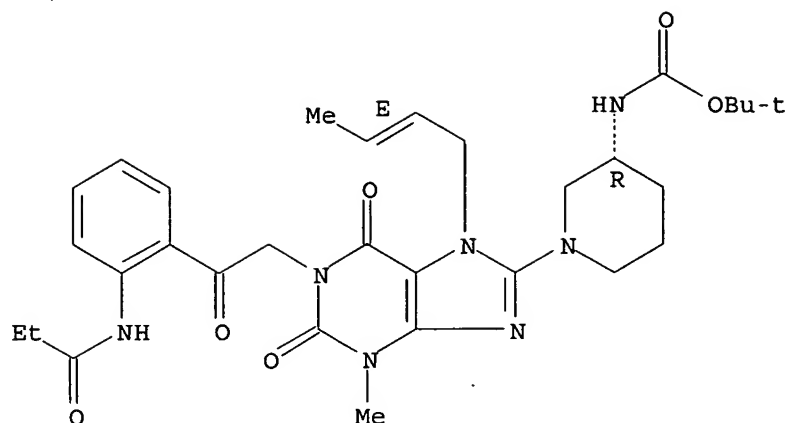
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668275-11-4 CAPLUS

CN Carbamic acid, [(3R)-1-[7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1-[2-oxo-2-[2-[(1-oxopropyl)amino]phenyl]ethyl]-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

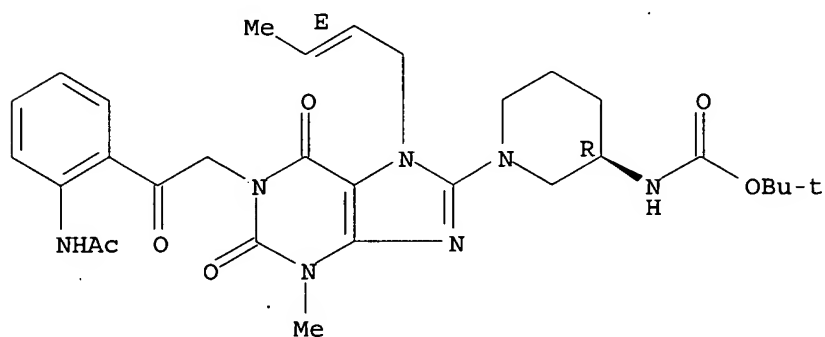
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668275-12-5 CAPLUS

CN Carbamic acid, [(3R)-1-[1-[2-[2-(acetylamino)phenyl]-2-oxoethyl]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

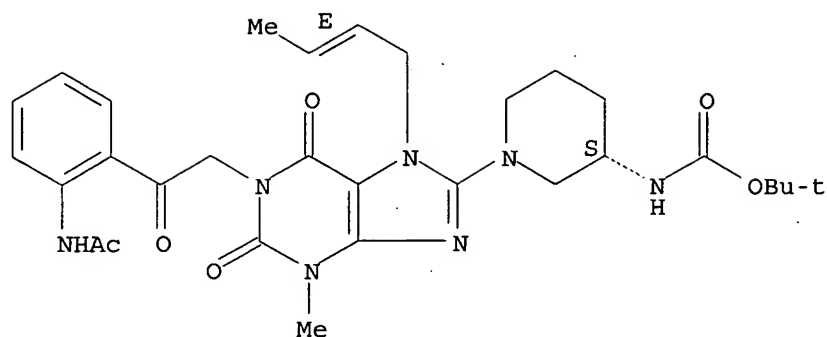
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668275-13-6 CAPLUS

CN Carbamic acid, [(3S)-1-[1-[2-[2-(acetylamino)phenyl]-2-oxoethyl]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

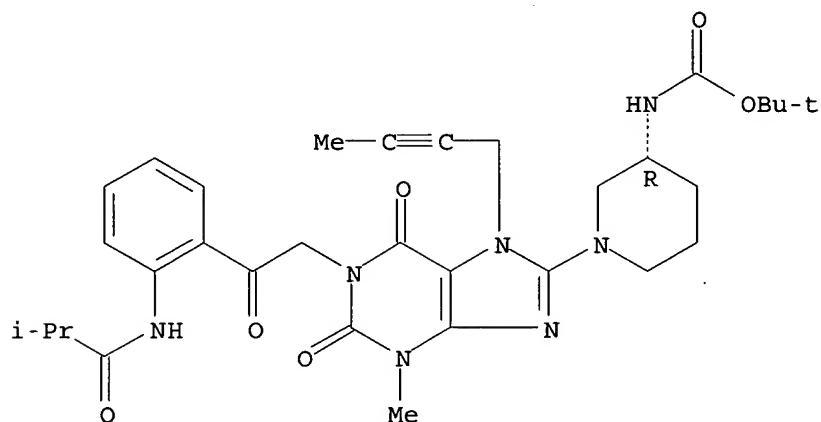
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668275-14-7 CAPLUS

CN Carbamic acid, [(3R)-1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



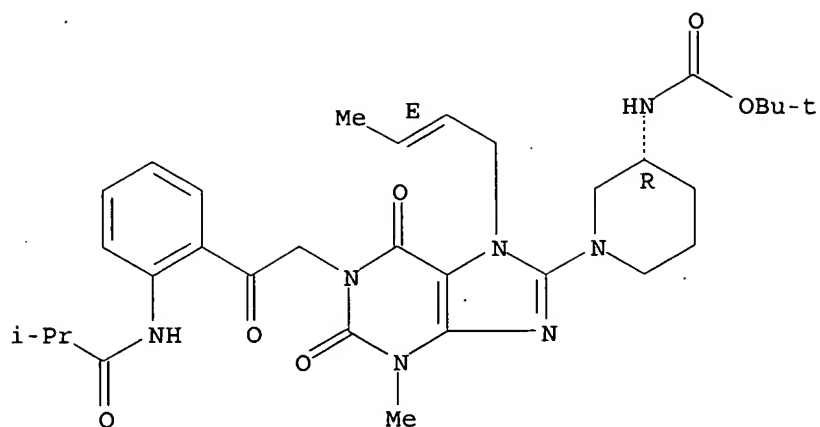
RN 668275-15-8 CAPLUS

CN Carbamic acid, [(3R)-1-[7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

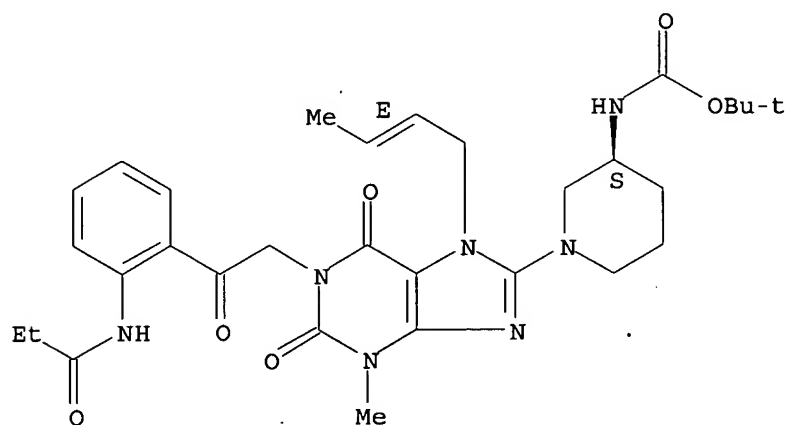




RN 668275-16-9 CAPLUS

CN Carbamic acid, [(3S)-1-[7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1-[2-oxo-2-[2-[(1-oxopropyl)amino]phenyl]ethyl]-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

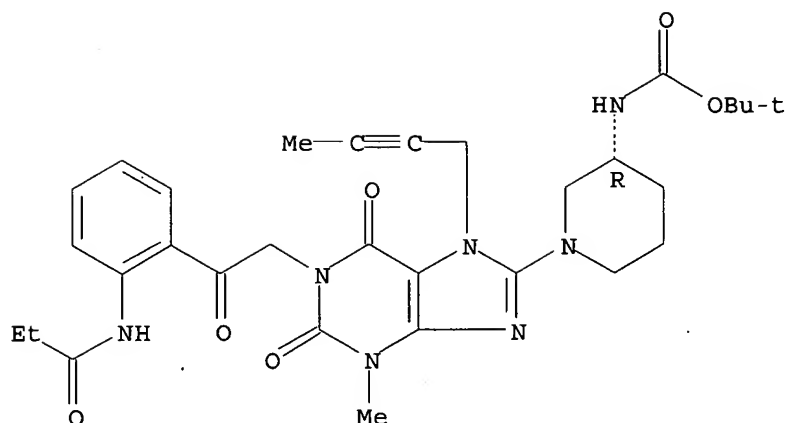
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668275-17-0 CAPLUS

CN Carbamic acid, [(3R)-1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1-[2-oxo-2-[2-[(1-oxopropyl)amino]phenyl]ethyl]-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

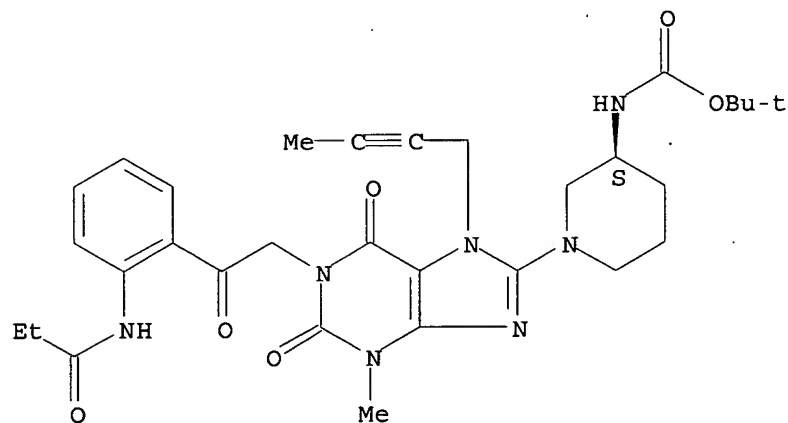
Absolute stereochemistry.



RN 668275-18-1 CAPLUS

CN Carbamic acid, [(3S)-1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1-[2-oxo-2-[(1-oxopropyl)amino]phenyl]ethyl]-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L19 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2004:408271 CAPLUS  
 DOCUMENT NUMBER: 140:423521  
 TITLE: Preparation of xanthines as inhibitors of dipeptidyl  
 peptidase IV (DPP-IV)  
 INVENTOR(S): Himmelsbach, Frank; Langkopf, Elke; Eckhardt,  
 Matthias; Maier, Roland; Mark, Michael; Tadayyon,  
 Mohammad; Lotz, Ralf  
 PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma G.m.b.H. & Co. K.-G.,  
 Germany  
 SOURCE: Ger. Offen., 39 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

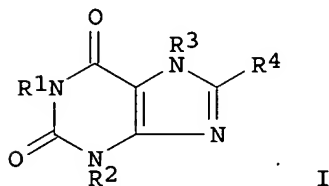
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10251927	A1	20040519	DE 2002-10251927	20021108
US 2004138214	A1	20040715	US 2003-695597	20031028
WO 2004041820	A1	20040521	WO 2003-EP12198	20031103

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: DE 2002-10251927 A 20021108  
US 2002-429173P P 20021126

OTHER SOURCE(S): MARPAT 140:423521  
ED Entered STN: 20 May 2004  
GI



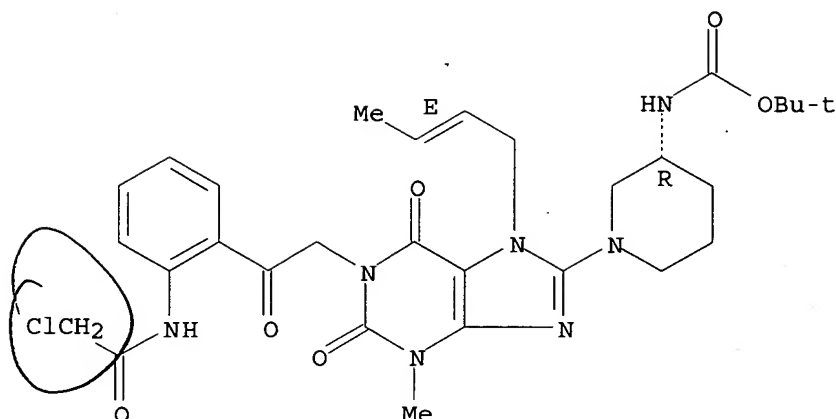
AB Title compds. [I; R1 = (condensed heterocyclyl-substituted) C1-3 alkyl, etc.; R2 = H, alkyl, alkenyl, alkynyl, cycloalkyl, etc.; R3 = (substituted) alkyl, aryl, alkenyl, alkynyl, etc.; R4 = (substituted) azetidin-1-yl, pyrrolidin-1-yl, piperidin-1-yl, hexahydroazepin-1-yl, etc.] and tautomers, stereoisomers, mixts., prodrug, and salts thereof, were prepared. Thus, 1-[(1-methyl-2,2-dioxo-1H-benzo[c][1,2]thiazin-4-yl)methyl]-3-methyl-7-(3-methyl-2-buten-1-yl)-8-[3-(tert-butyloxycarbonylamino)piperidin-1-yl]xanthine (preparation given) in CH<sub>2</sub>Cl<sub>2</sub> was treated with isopropanolic HCl followed by stirring for 3 h at room temperature to give 77% 1-[(1-methyl-2,2-dioxo-1H-benzo[c][1,2]thiazin-4-yl)methyl]-3-methyl-7-(3-methyl-2-buten-1-yl)-8-(3-aminopiperidin-1-yl)xanthine. The latter inhibited DPP-IV with IC<sub>50</sub> = 13 nM.

IT **690996-66-8P**  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of xanthines as inhibitors of dipeptidyl peptidase IV (DPP-IV))

RN 690996-66-8 CAPLUS

CN Carbamic acid, [(3R)-1-[7-(2E)-2-butenyl-1-[2-[2-[(chloroacetyl)amino]phenyl]-2-oxoethyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA. INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.



L19 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2004:177908 CAPLUS  
 DOCUMENT NUMBER: 140:235733  
 TITLE: Preparation of xanthines as dipeptidylpeptidase IV inhibitors for the treatment of diabetes  
 INVENTOR(S): Eckhardt, Matthias; Himmelsbach, Frank; Langkopf, Elke; Maier, Roland; Mark, Michael; Lotz, Ralf  
 PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma G.m.b.H. & Co. K.-G., Germany  
 SOURCE: Ger. Offen., 22 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

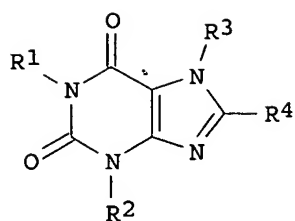
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PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10238470	A1	20040304	DE 2002-10238470	20020822
US 2004166125	A1	20040826	US 2003-636088	20030807
WO 2004018467	A2	20040304	WO 2003-EP9096	20030816
WO 2004018467	A3	20040513		

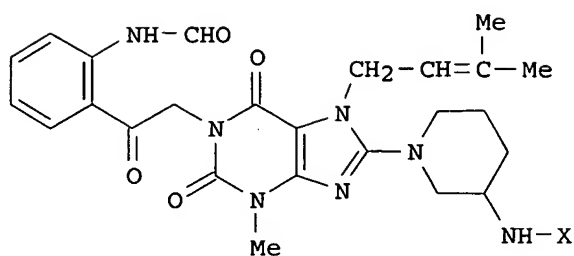
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: DE 2002-10238470 A 20020822  
 US 2002-409258P P 20020909

OTHER SOURCE(S): MARPAT 140:235733  
 ED Entered STN: 04 Mar 2004  
 GI



I



II

AB Title compds. I [R1 = (un)substituted phenylcarbonylmethyl; R2 = H, alkyl, alkenyl, etc.; R3 = (un)substituted alkyl; R4 = (un)substituted azetidin-1-yl, pyrrolidin-1-yl] and their pharmaceutically acceptable salts were prepared. For example, BOC deprotection of amine II (X = Boc), e.g., prepared from 3-Methyl-8-chloroxanthine, via TFA afforded claimed xanthine II (X = H) in 87% yield. In dipeptidylpeptidase IV inhibition assays, 7-examples of compds. I exhibited IC50 values ranging from 3-11 nM, e.g., the IC50 value of xanthine II (X = H) was 5 nM. Compds. I are claimed useful for the treatment of type I and type II diabetes.

IT 666816-75-7P, 1-[2-(2-Formylaminophenyl)-2-oxoethyl]-3-methyl-7-(3-methyl-2-buten-1-yl)-8-(3-aminopiperidin-1-yl)xanthine

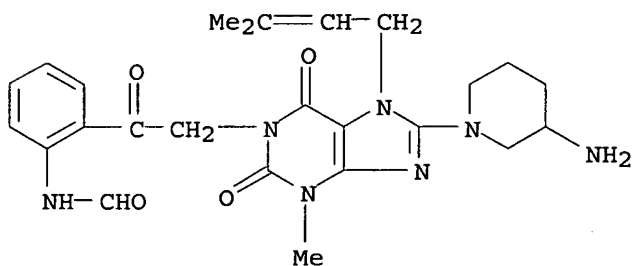
666816-77-9P, 1-[2-(2-Formylaminophenyl)-2-oxoethyl]-3-methyl-7-(2-butyn-1-yl)-8-(3-aminopiperidin-1-yl)xanthine

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of xanthines as dipeptidylpeptidase IV inhibitors for the treatment of diabetes)

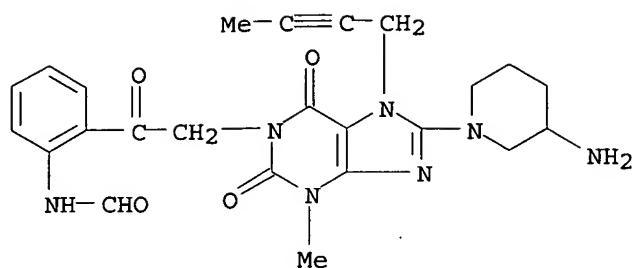
RN 666816-75-7 CAPLUS

CN Formamide, N-[2-[[8-(3-amino-1-piperidinyl)-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)



RN 666816-77-9 CAPLUS

CN Formamide, N-[2-[[8-(3-amino-1-piperidinyl)-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)



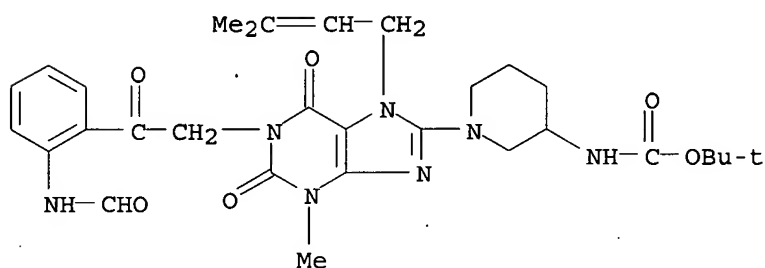
IT 666816-83-7P 666816-84-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of xanthines as dipeptidylpeptidase IV inhibitors for the treatment of diabetes)

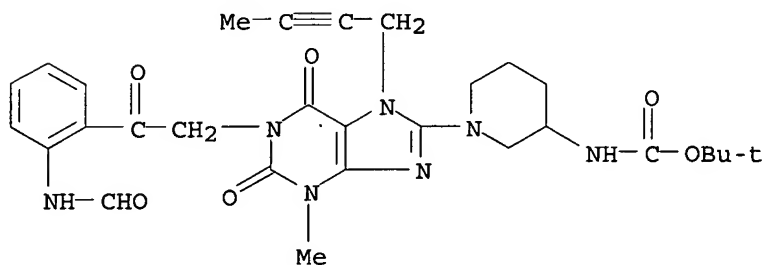
RN 666816-83-7 CAPLUS

CN Carbamic acid, [1-[1-[2-[2-(formylamino)phenyl]-2-oxoethyl]-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 666816-84-8 CAPLUS

CN Carbamic acid, [1-[7-(2-butynyl)-1-[2-[2-(formylamino)phenyl]-2-oxoethyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



L19 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:177895 CAPLUS

DOCUMENT NUMBER: 140:235732

TITLE: Production of 8-[3-aminopiperidin-1-yl]xanthines and their use as drugs

INVENTOR(S): Himmelsbach, Frank; Eckhardt, Matthias; Langkopf, Elke; Mark, Michael; Maier, Roland; Lotz, Ralf

PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma G.m.b.H. & Co. K.-G.,

SOURCE: Germany  
 Ger. Offen., 52 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10238243	A1	20040304	DE 2002-10238243	20020821
US 2004097510	A1	20040520	<del>US 2003-639036</del>	20030812
WO 2004018468	A2	20040304	WO 2003-EP9127	20030818
WO 2004018468	A3	20040408		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

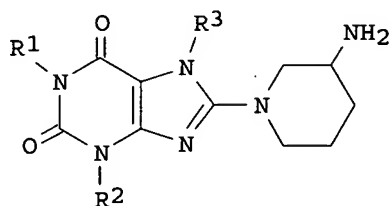
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: DE 2002-10238243 A 20020821  
 US 2002-409312P P 20020909  
 DE 2003-10312353 A 20030320  
 US 2003-461752P P 20030410

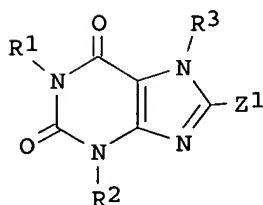
OTHER SOURCE(S): MARPAT 140:235732

ED Entered STN: 04 Mar 2004

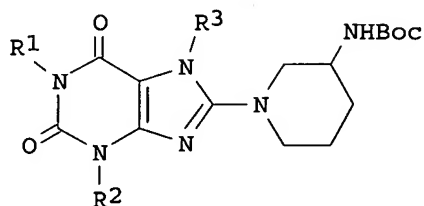
GI



I



II



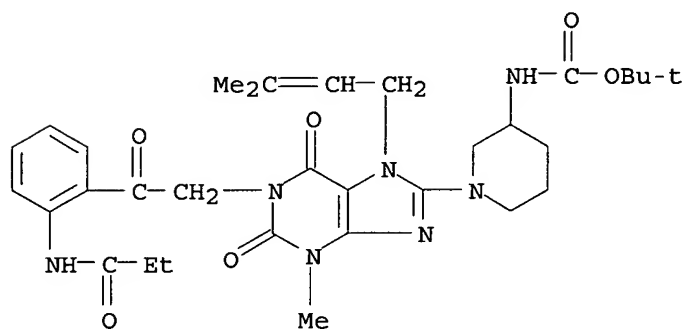
III

AB The present invention concerns substituted xanthines, e.g., I [R1 = Me, CH2CONMe2, CH2CO-(pyrrolidin-1-yl), CH2CO-(piperidin-1-yl), (un)substituted CH2-naphthyl, CH2CH:CHPh, CH2C6H4Ph, CH2-

IT	668274-99-5P	668275-01-2P	668275-02-3P
	668275-03-4P	668275-04-5P	668275-05-6P
	668275-06-7P	668275-07-8P	668275-08-9P
	668275-10-3P	668275-11-4P	668275-12-5P
	668275-13-6P	668275-14-7P	668275-15-8P
	668275-16-9P	668275-17-0P	668275-18-1P

(intermediate; preparation and inhibiting activity of 8-[3-aminopiperidin-1-yl]xanthines against dipeptidylpeptidase IV)

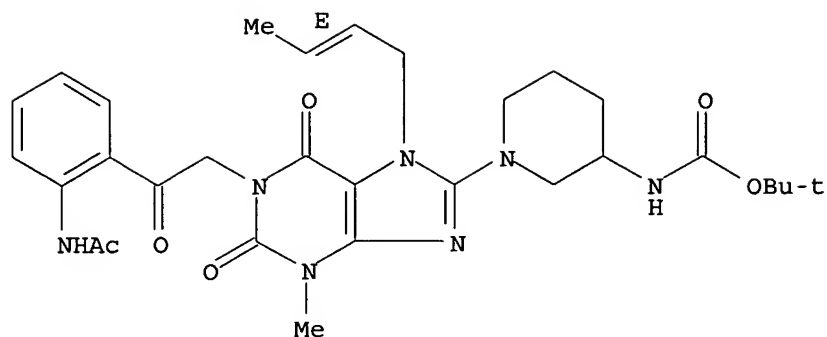
CN Carbamic acid, [1-[2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1-[2-oxo-2-[2-[(1-oxopropyl)amino]phenyl]ethyl]-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



CN Carbamic acid, [1-[1-[2-[2-(acetylamino)phenyl]-2-oxoethyl]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Searched by Barb O'Bryen, STIC 2-2518

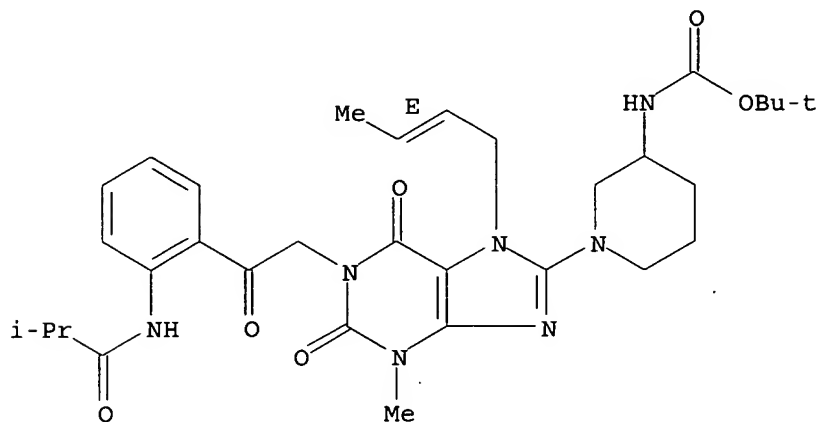




RN 668275-02-3 CAPLUS

CN Carbamic acid, [1-[7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-1-[2-[2-(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

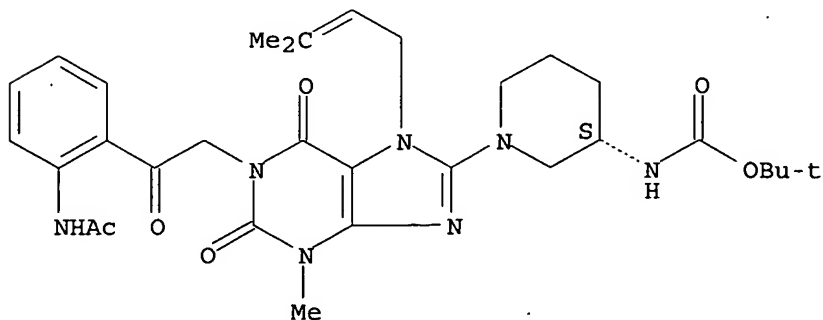
Double bond geometry as shown.



RN 668275-03-4 CAPLUS

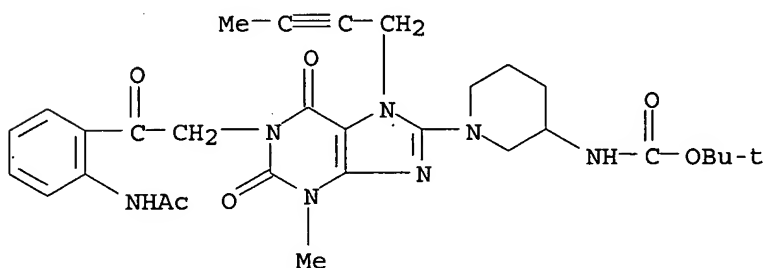
CN Carbamic acid, [(3S)-1-[1-[2-[2-(acetylamino)phenyl]-2-oxoethyl]-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



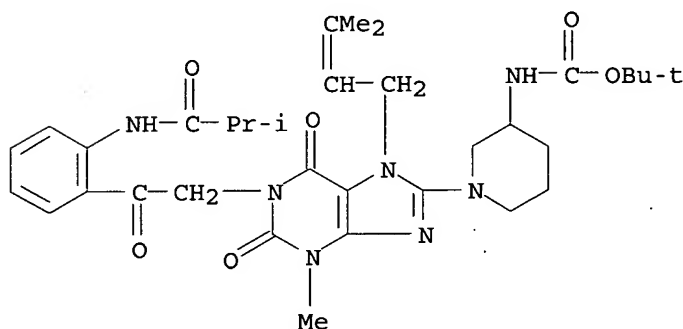
RN 668275-04-5 CAPLUS

CN Carbamic acid, [1-[1-[2-[2-(acetylamino)phenyl]-2-oxoethyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



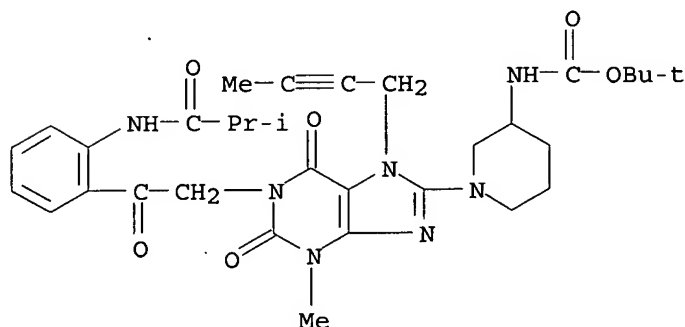
RN 668275-05-6 CAPLUS

CN Carbamic acid, [1-[2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 668275-06-7 CAPLUS

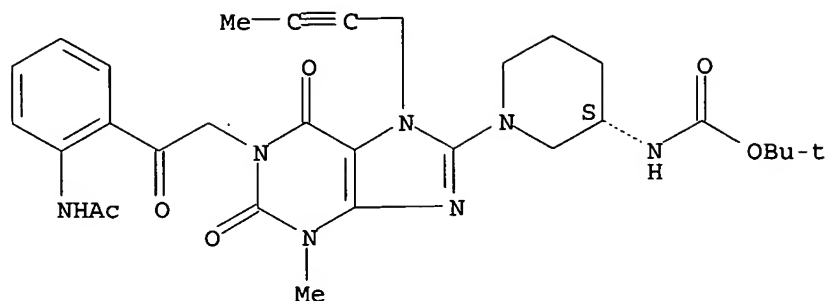
CN Carbamic acid, [1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 668275-07-8 CAPLUS

CN Carbamic acid, [(3S)-1-[1-[2-[2-(acetylamino)phenyl]-2-oxoethyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

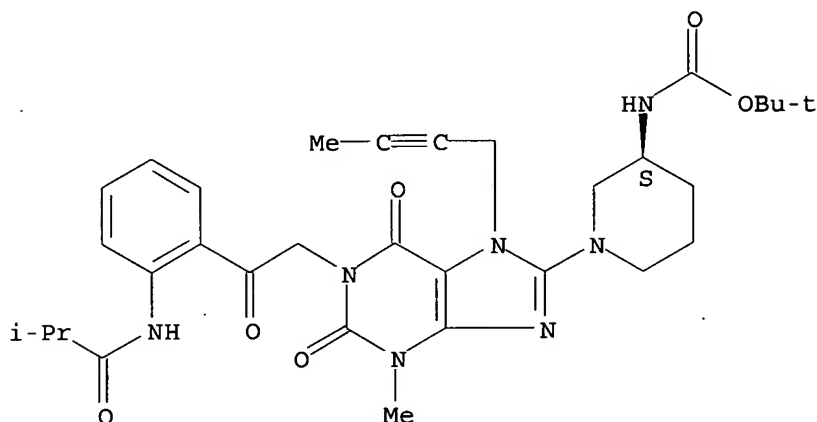
Absolute stereochemistry.



RN 668275-08-9 CAPLUS

CN Carbamic acid, [(3S)-1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

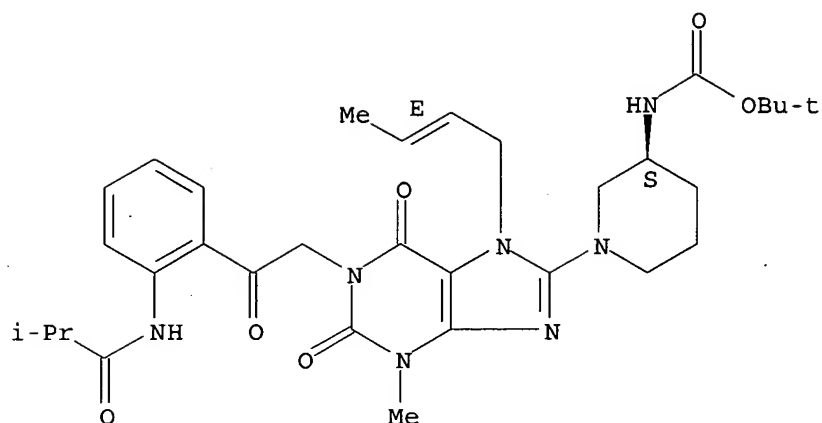


RN 668275-10-3 CAPLUS

CN Carbamic acid, [(3S)-1-[7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

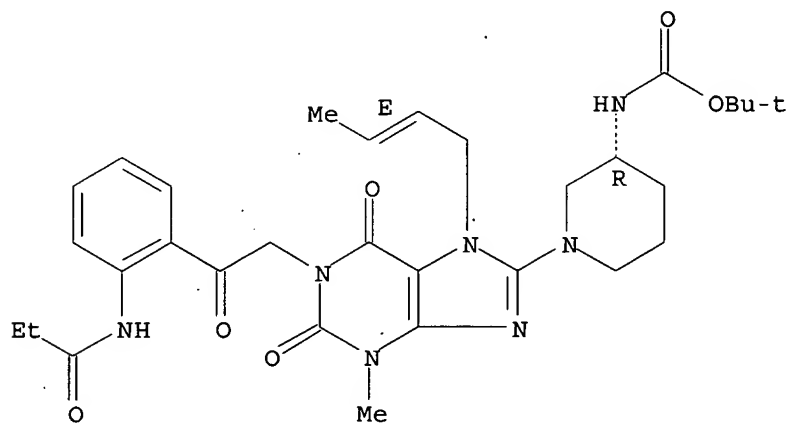
Double bond geometry as shown.



RN 668275-11-4 CAPLUS

CN Carbamic acid, [(3R)-1-[7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1-[2-oxo-2-[2-[(1-oxopropyl)amino]phenyl]ethyl]-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

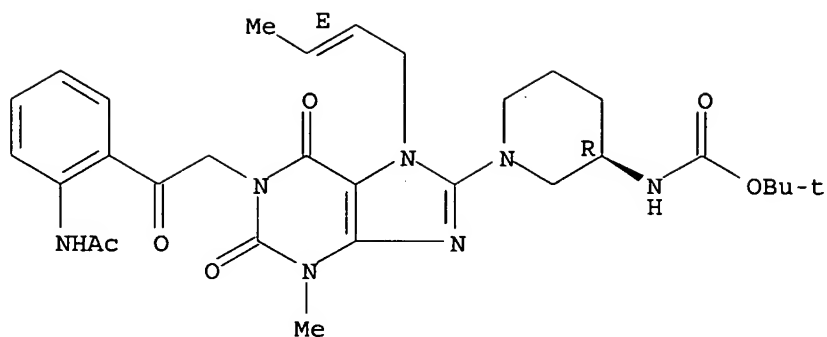
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668275-12-5 CAPLUS

CN Carbamic acid, [(3R)-1-[1-[2-[2-(acetamino)phenyl]-2-oxoethyl]-7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

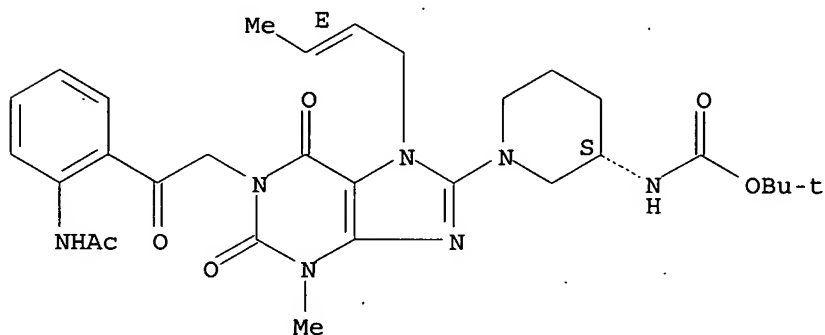
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668275-13-6 CAPLUS

CN Carbamic acid, [(3S)-1-[1-[2-[2-(acetylamino)phenyl]-2-oxoethyl]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

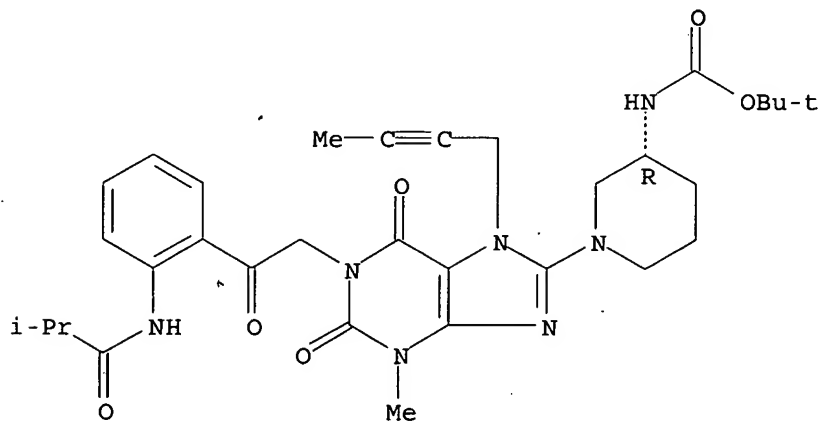
Absolute stereochemistry.  
Double bond geometry as shown.



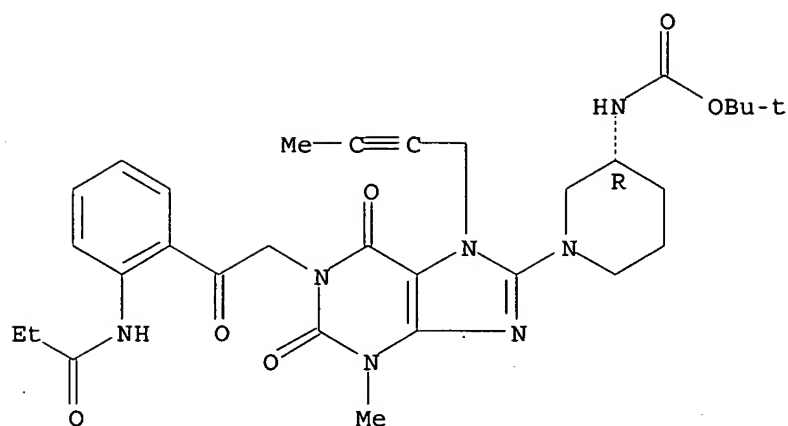
RN 668275-14-7 CAPLUS

CN Carbamic acid, [(3R)-1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



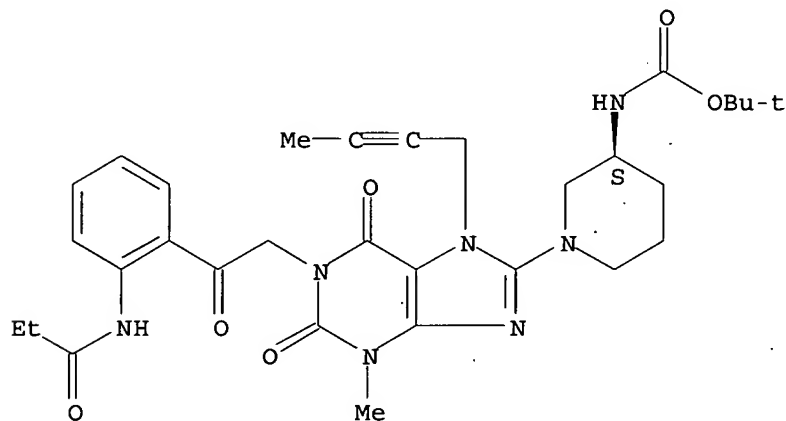




RN 668275-18-1 CAPLUS

CN Carbamic acid, [(3S)-1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1-[2-oxo-2-[2-[(1-oxopropyl)amino]phenyl]ethyl]-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



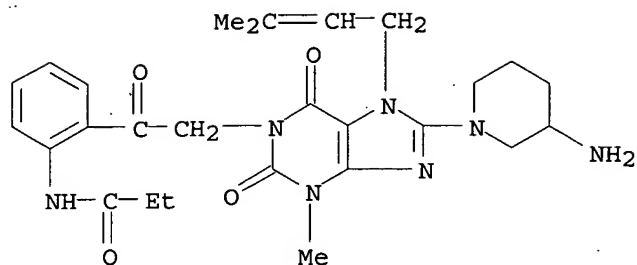
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 668270-19-7P 668270-21-1P 668270-22-2P  
 668270-24-4P 668270-25-5P 668270-26-6P  
 668270-27-7P

RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation and inhibiting activity of 8-[3-aminopiperidin-1-yl]xanthines against dipeptidylpeptidase IV)

RN 668268-86-8 CAPLUS

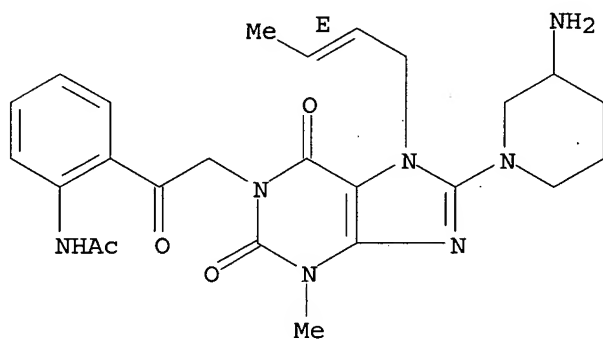
CN Propanamide, N-[2-[[8-(3-amino-1-piperidinyl)-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)



RN 668269-66-7 CAPLUS

CN Acetamide, N-[2-[[8-(3-amino-1-piperidinyl)-7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

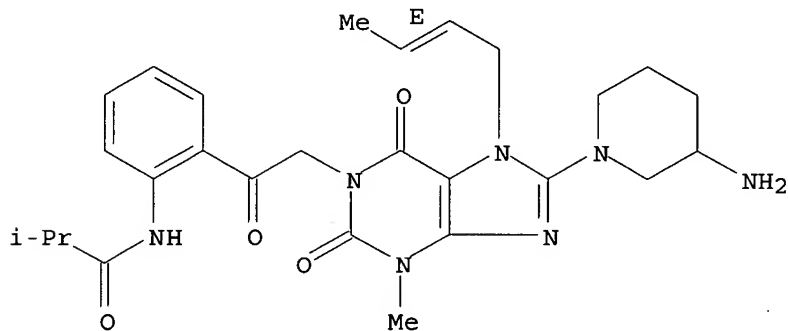
Double bond geometry as shown.



RN 668269-70-3 CAPLUS

CN Propanamide, N-[2-[[8-(3-amino-1-piperidinyl)-7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

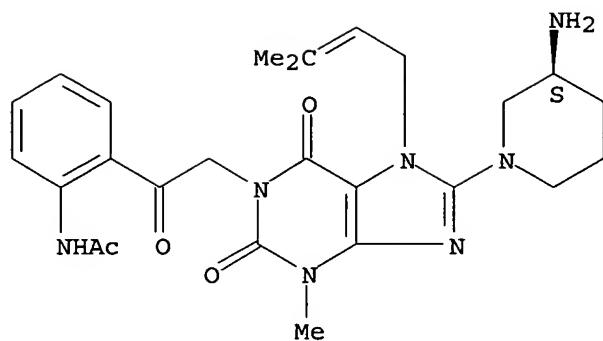


RN 668269-75-8 CAPLUS

CN Acetamide, N-[2-[[8-[(3S)-3-amino-1-piperidinyl]-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

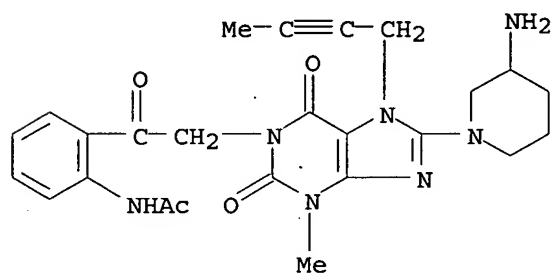
Absolute stereochemistry.





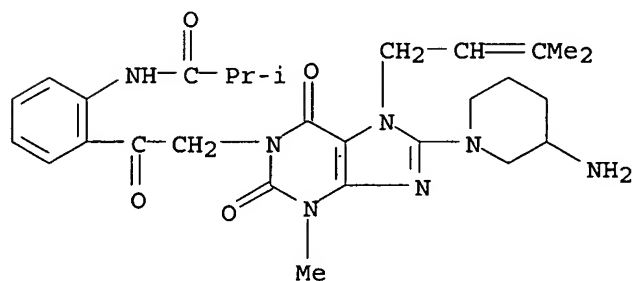
RN 668269-80-5 CAPLUS

CN Acetamide, N-[2-[[8-(3-amino-1-piperidinyl)-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)



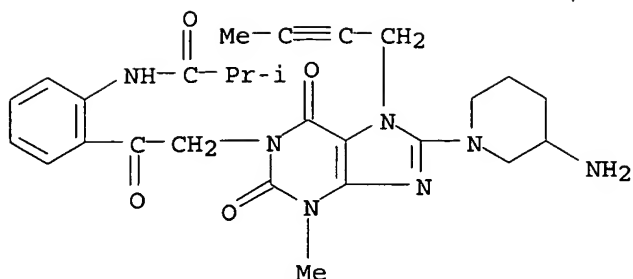
RN 668269-86-1 CAPLUS

CN Propanamide, N-[2-[[8-(3-amino-1-piperidinyl)-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)



RN 668269-88-3 CAPLUS

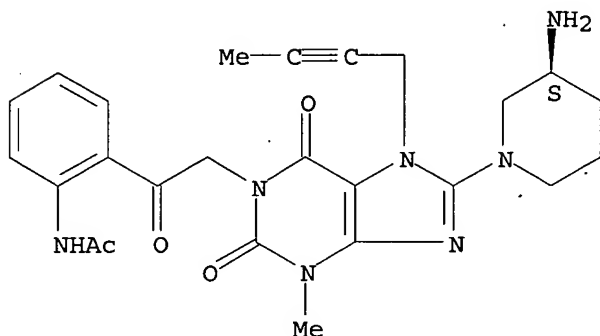
CN Propanamide, N-[2-[[8-(3-amino-1-piperidinyl)-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)



RN 668269-89-4 CAPLUS

CN Acetamide, N-[2-[[8-[(3S)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

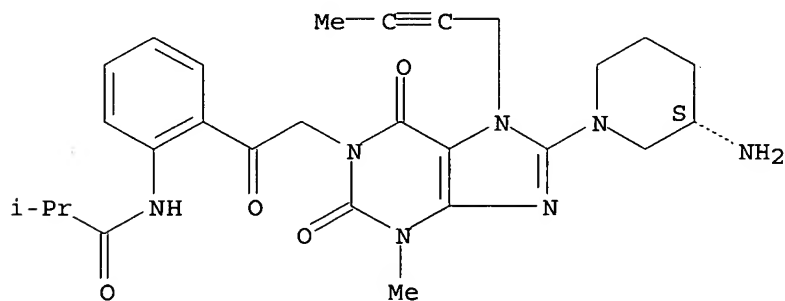
Absolute stereochemistry.



RN 668269-90-7 CAPLUS

CN Propanamide, N-[2-[[8-[(3S)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

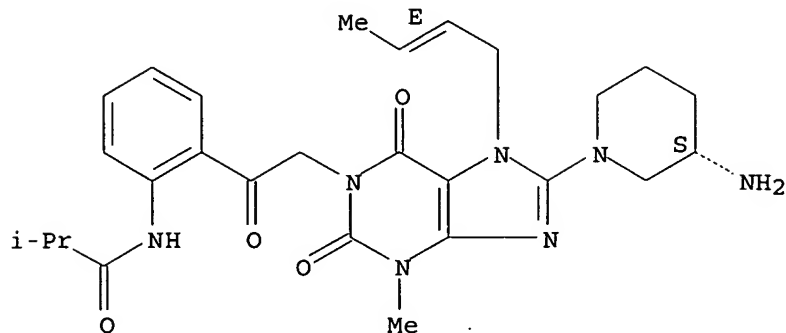


RN 668270-15-3 CAPLUS

CN Propanamide, N-[2-[[8-[(3S)-3-amino-1-piperidinyl]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

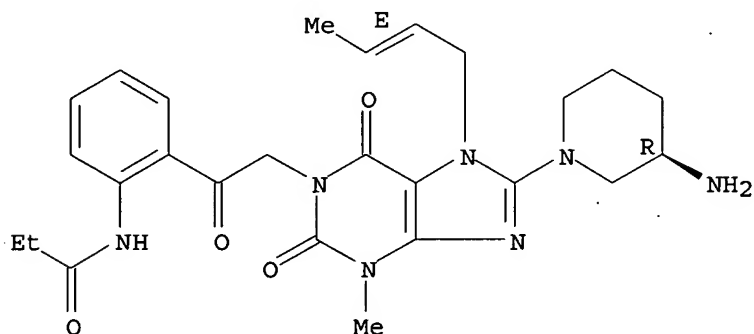


RN 668270-16-4 CAPLUS

CN Propanamide, N-[2-[[8-[[3R)-3-amino-1-piperidiny]-7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI)  
(CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

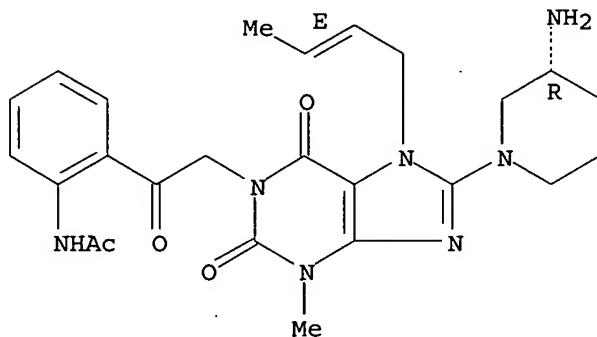


RN 668270-17-5 CAPLUS

CN Acetamide, N-[2-[[8-[[3R)-3-amino-1-piperidiny]-7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

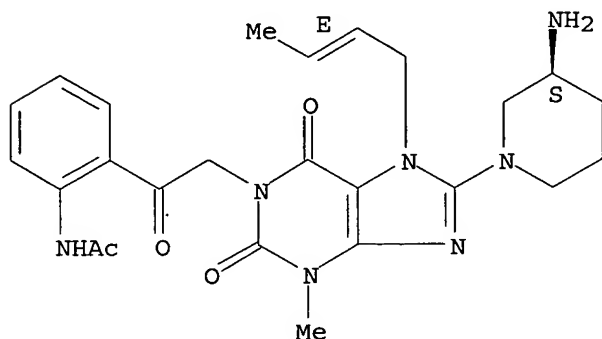
Absolute stereochemistry.

Double bond geometry as shown.



RN 668270-19-7 CAPLUS

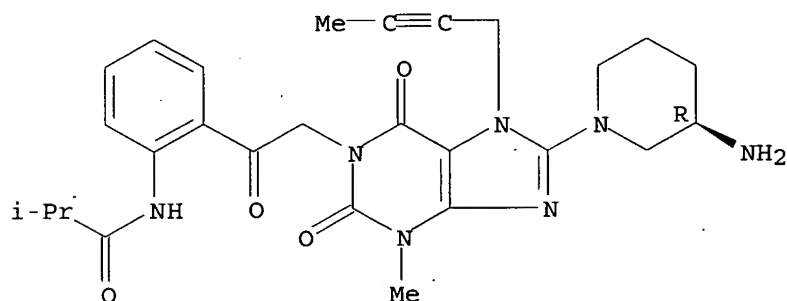
CN Acetamide, N-[2-[[8-[(3S)-3-amino-1-piperidinyl]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.

RN 668270-21-1 CAPLUS

CN Propanamide, N-[2-[[8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)

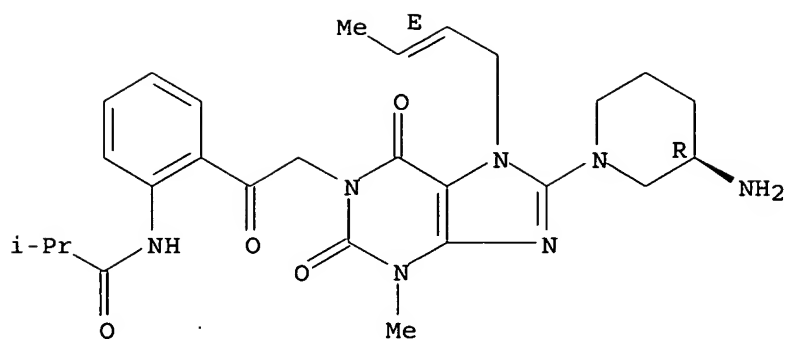
Absolute stereochemistry.



RN 668270-22-2 CAPLUS

CN Propanamide, N-[2-[[8-[(3R)-3-amino-1-piperidinyl]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)

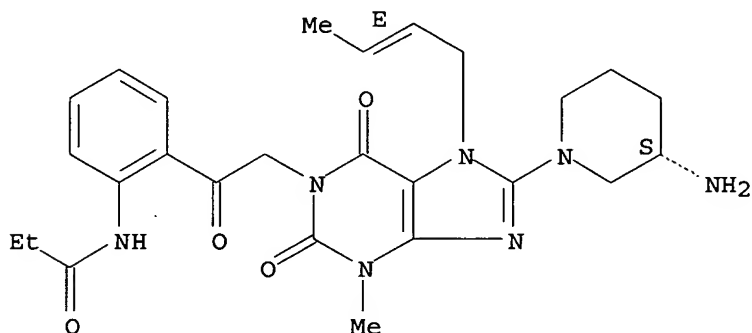
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668270-24-4 CAPLUS

CN Propanamide, N-[2-[[8-[(3S)-3-amino-1-piperidiny]]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI)  
(CA INDEX NAME)

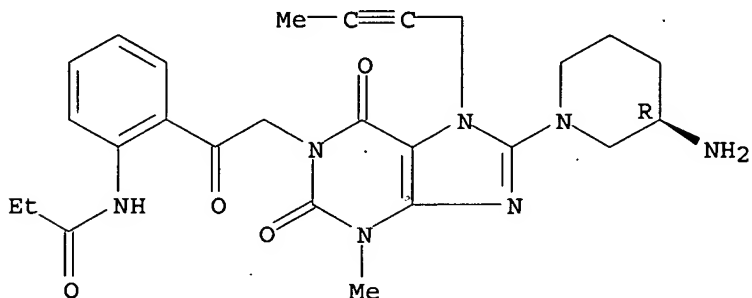
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668270-25-5 CAPLUS

CN Propanamide, N-[2-[[8-[(3R)-3-amino-1-piperidiny]]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

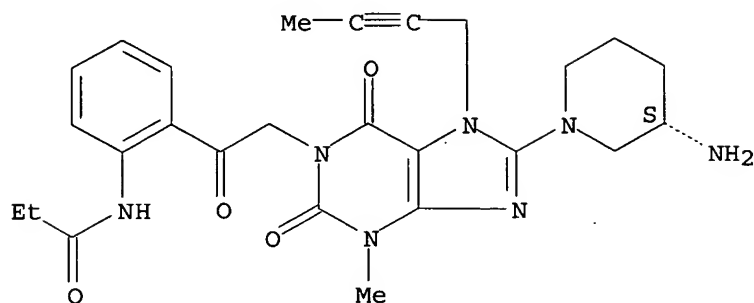


RN 668270-26-6 CAPLUS

CN Propanamide, N-[2-[[8-[(3S)-3-amino-1-piperidiny]]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA

INDEX NAME)

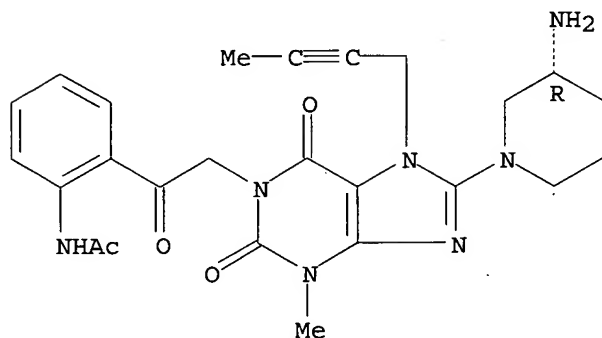
Absolute stereochemistry.



RN 668270-27-7 CAPLUS

CN Acetamide, N-[2-[[8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L19 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:676018 CAPLUS

DOCUMENT NUMBER: 137:216824

TITLE: Preparation of xanthine derivatives as dipeptidylpeptidase-IV inhibitors

INVENTOR(S): Himmelsbach, Frank; Mark, Michael; Eckhardt, Matthias; Langkopf, Elke; Maier, Roland; Lotz, Ralf

PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma K.-G., Germany

SOURCE: PCT Int. Appl., 373 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002068420	A1	20020906	WO 2002-EP1820	20020221
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,				

LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL,  
 PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,  
 US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,  
 CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,  
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 10109021	A1	20020905	DE 2001-10109021	20010224
DE 10117803	A1	20021024	DE 2001-10117803	20010410
DE 10140345	A1	20030227	DE 2001-10140345	20010817
DE 10203486	A1	20030731	DE 2002-10203486	20020130
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EP 1368349	A1	20031210	EP 2002-701288	20020221
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
EE 200300409	A	20031215	EE 2003-409	20020221
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JP 2004522786	T2	20040729	JP 2002-567932	20020221
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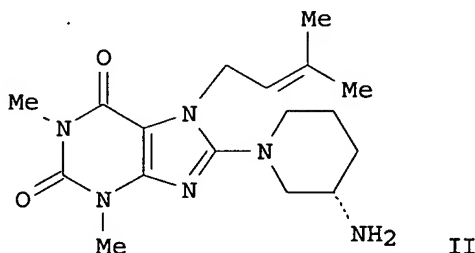
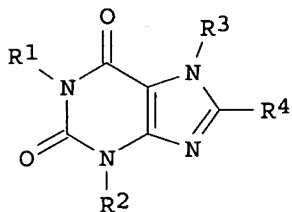
PRIORITY APPLN. INFO.:

DE 2001-10109021	A	20010224
DE 2001-10117803	A	20010410
DE 2001-10140345	A	20010817
DE 2002-10203486	A	20020130
WO 2002-EP1820	W	20020221

OTHER SOURCE(S): MARPAT 137:216824

ED Entered STN: 08 Sep 2002

GI



AB Xanthine derivs. of formula I [R1, R2 = H, alkyl, alkenyl, etc.; R3 = alkyl, arylalkyl, etc.; R4 = heterocyclyl, cycloalkyl, aminoalkyl, etc.] are prepared which exhibit an inhibitory effect on the activity of the dipeptidylpeptidase-IV enzyme. Pharmaceutical compns. containing I are described. Thus, II was prepared and had an IC50 of 22 nM against dipeptidylpeptidase-IV.

IT 454705-79-4P 454708-04-4P 454708-08-8P

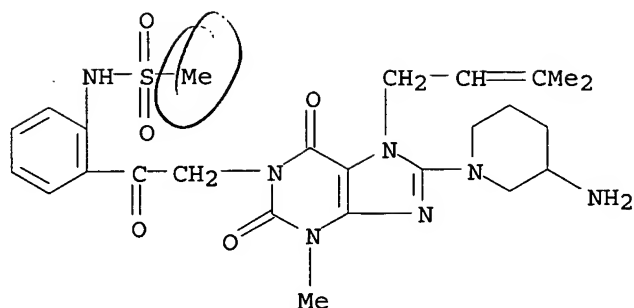
454708-46-4P 454708-50-0P 454708-66-8P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of xanthine derivs. as dipeptidylpeptidase-IV inhibitors)

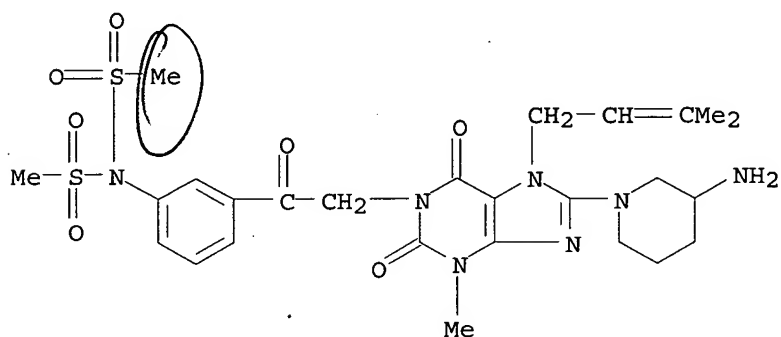
RN 454705-79-4 CAPLUS

CN Methanesulfonamide, N-[2-[[8-(3-amino-1-piperidinyl)-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)



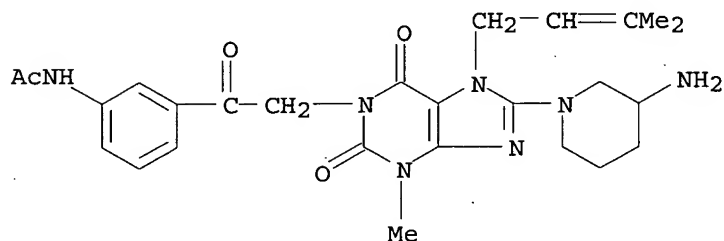
RN 454708-04-4 CAPLUS

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RN 454708-08-8 CAPLUS

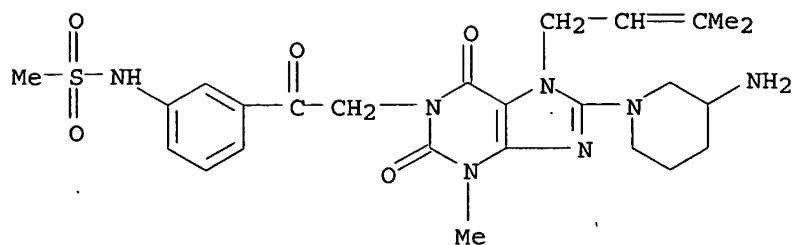
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RN 454708-46-4 CAPLUS

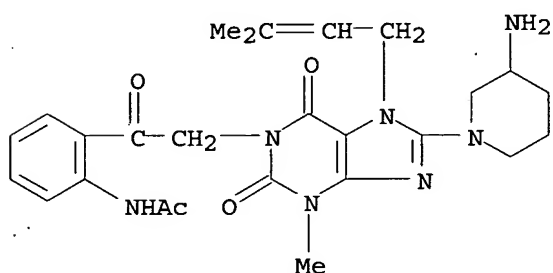
CN Methanesulfonamide, N-[3-[[8-(3-amino-1-piperidinyl)-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)





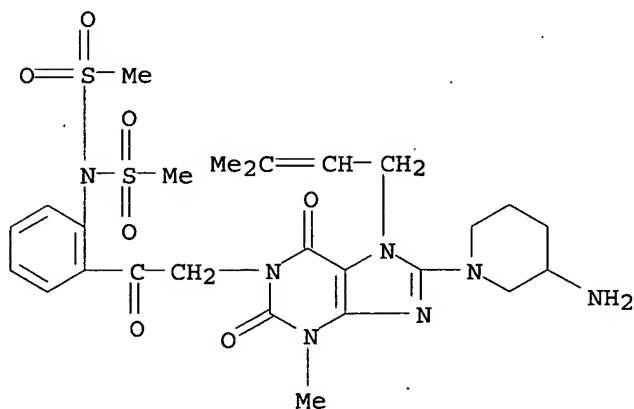
RN 454708-50-0 CAPLUS

CN Acetamide, N-[2-[[8-(3-amino-1-piperidinyl)-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)



RN 454708-66-8 CAPLUS

CN Methanesulfonamide, N-[2-[[8-(3-amino-1-piperidinyl)-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-N-(methanesulfonyl)- (9CI) (CA INDEX NAME)



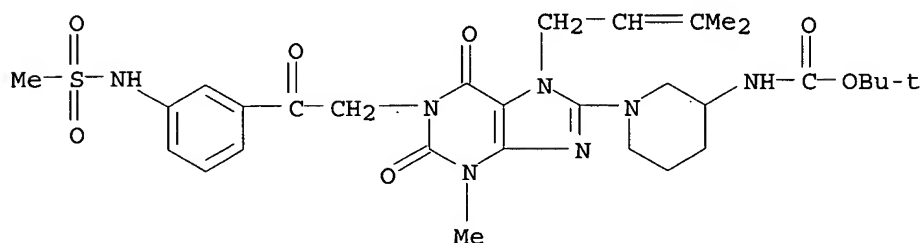
IT 454712-60-8P 454712-62-0P 454712-92-6P  
454712-93-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of xanthine derivs. as dipeptidylpeptidase-IV inhibitors)

RN 454712-60-8 CAPLUS

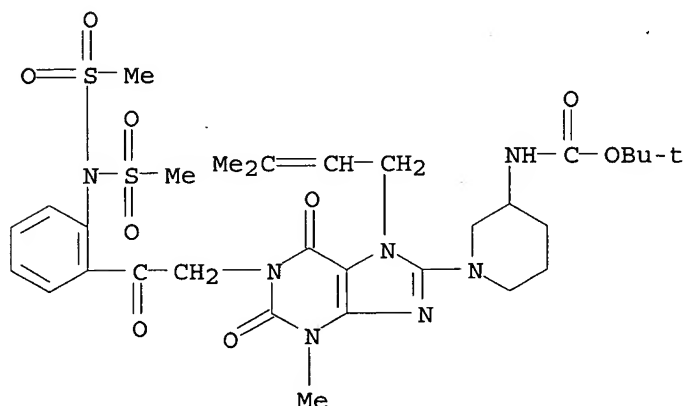
CN Carbamic acid, [1-[2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-1-[2-

[3-[(methylsulfonyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



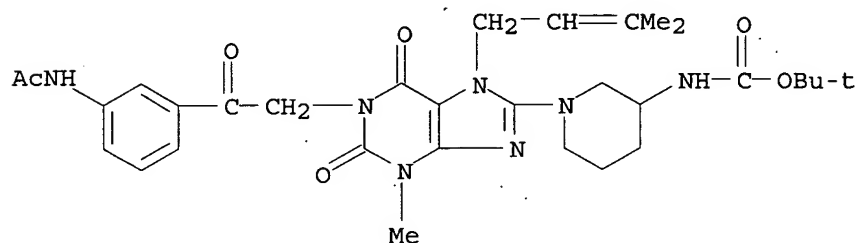
RN 454712-62-0 CAPLUS

CN Carbamic acid, [1-[1-[2-[2-[bis(methylsulfonyl)amino]phenyl]-2-oxoethyl]-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



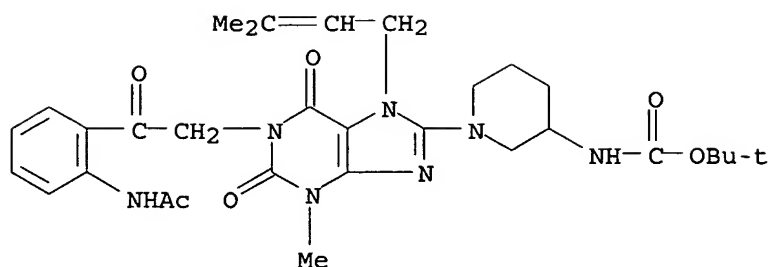
RN 454712-92-6 CAPLUS

CN Carbamic acid, [1-[1-[2-[3-(acetamino)phenyl]-2-oxoethyl]-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 454712-93-7 CAPLUS

CN Carbamic acid, [1-[1-[2-[2-(acetamino)phenyl]-2-oxoethyl]-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 6 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2004:215019 USPATFULL

TITLE: Xanthine derivatives, their preparation and their use in pharmaceutical compositions

INVENTOR(S): Himmelsbach, Frank, Mittelbiberach, GERMANY, FEDERAL REPUBLIC OF  
Langkopf, Elke, Warthausen, GERMANY, FEDERAL REPUBLIC OF  
Eckhardt, Matthias, Biberach, GERMANY, FEDERAL REPUBLIC OF  
Mark, Michael, Biberach, GERMANY, FEDERAL REPUBLIC OF  
Maier, Roland, Biberach an der Riss, GERMANY, FEDERAL REPUBLIC OF  
Lotz, Ralf R. H., Schemmerhofen, GERMANY, FEDERAL REPUBLIC OF

PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma GmbH & Co. KG, Ingelheim, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004166125	A1	20040826
APPLICATION INFO.:	US 2003-636088	A1	20030807 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2002-DE10238470	20020822
	US 2002-409258P	20020909 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: BOEHRINGER INGELHEIM CORPORATION, 900 RIDGEBURY ROAD, P. O. BOX 368, RIDGEFIELD, CT, 06877

NUMBER OF CLAIMS: 15

EXEMPLARY CLAIM: 1

LINE COUNT: 1596

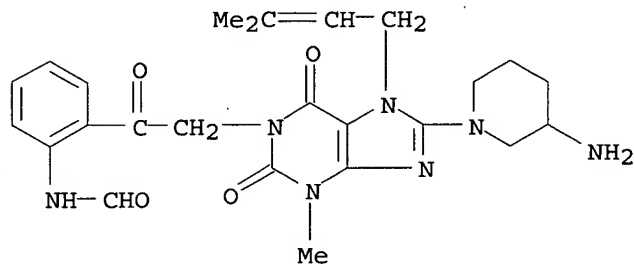
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Compounds of formula (I) ##STR1##

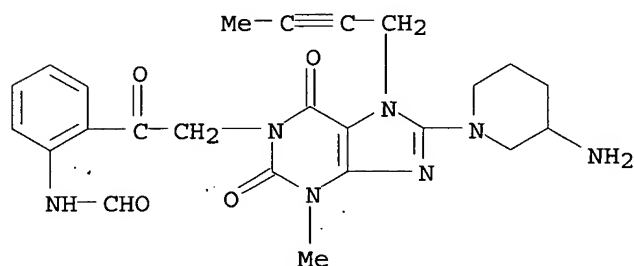
wherein R.sup.1 to R.sup.4 are defined as in the claims, or the prodrugs or salts thereof, particularly the physiologically acceptable salts thereof, pharmaceutical compositions containing these compounds, and methods of treating type I and type II diabetes mellitus, arthritis, obesity, allograft transplantation, or calcitonin-induced osteoporosis using these compounds.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

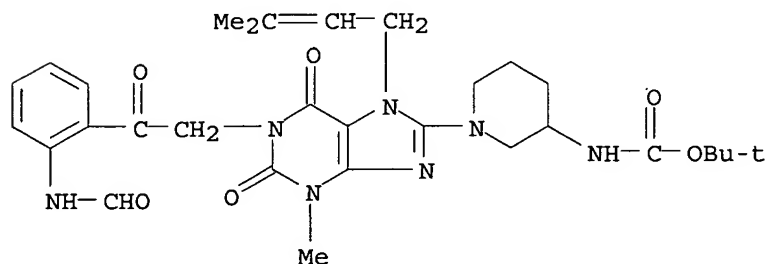
IT **666816-75-7P**, 1-[2-(2-Formylaminophenyl)-2-oxoethyl]-3-methyl-7-(3-methyl-2-buten-1-yl)-8-(3-aminopiperidin-1-yl)xanthine  
**666816-77-9P**, 1-[2-(2-Formylaminophenyl)-2-oxoethyl]-3-methyl-7-(2-butyne-1-yl)-8-(3-aminopiperidin-1-yl)xanthine  
 (preparation of xanthines as dipeptidylpeptidase IV inhibitors for the treatment of diabetes)  
 RN 666816-75-7 USPATFULL  
 CN Formamide, N-[2-[[8-(3-amino-1-piperidinyl)-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)



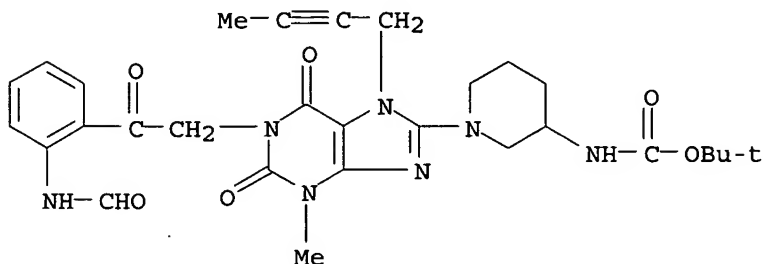
RN 666816-77-9 USPATFULL  
 CN Formamide, N-[2-[[8-(3-amino-1-piperidinyl)-7-(2-butyne-1-yl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)



IT **666816-83-7P 666816-84-8P**  
 (preparation of xanthines as dipeptidylpeptidase IV inhibitors for the treatment of diabetes)  
 RN 666816-83-7 USPATFULL  
 CN Carbamic acid, [1-[1-[2-[2-(formylamino)phenyl]-2-oxoethyl]-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 666816-84-8 USPATFULL  
 CN Carbamic acid, [1-[7-(2-butyryl)-1-[2-[2-(formylamino)phenyl]-2-oxoethyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



L19 ANSWER 7 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2004:179044 USPATFULL

TITLE: Xanthine derivatives, the preparation thereof and their use as pharmaceutical compositions

INVENTOR(S): Himmelsbach, Frank, Mittelbiberach, GERMANY, FEDERAL REPUBLIC OF  
 Langkopf, Elke, Warthausen, GERMANY, FEDERAL REPUBLIC OF  
 Eckhardt, Matthias, Biberach, GERMANY, FEDERAL REPUBLIC OF

Maier, Roland, Biberach, GERMANY, FEDERAL REPUBLIC OF  
 Mark, Michael, Biberach, GERMANY, FEDERAL REPUBLIC OF  
 Tadayyon, Mohammad, Ulm, GERMANY, FEDERAL REPUBLIC OF  
 Lotz, Ralf R. H., Schemmerhofen, GERMANY, FEDERAL REPUBLIC OF

PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma GmbH & Co. KG, Ingelheim, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004138214	A1	20040715
APPLICATION INFO.:	US 2003-695597	A1	20031028 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2002-10251927	20021108
	US 2002-429173P	20021126 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: BOEHRINGER INGELHEIM CORPORATION, 900 RIDGEBURY ROAD, P. O. BOX 368, RIDGEFIELD, CT, 06877

NUMBER OF CLAIMS: 8

EXEMPLARY CLAIM: 1

LINE COUNT: 2829

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed are substituted xanthines of general formula ##STR1##

wherein R.sup.1 to R.sup.4 are defined hereinbelow, the tautomers, the stereoisomers, the mixtures thereof, the prodrugs thereof and the salts thereof, which have valuable pharmacological properties, particularly an inhibitory effect on the activity of the enzyme dipeptidylpeptidase-IV (DPP-IV).

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

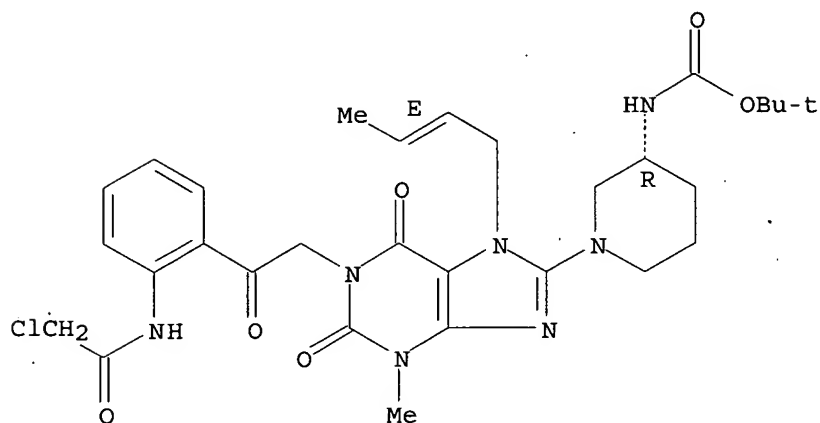
IT 690996-66-8P

(preparation of xanthines as inhibitors of dipeptidyl peptidase IV (DPP-IV))

RN 690996-66-8 USPATFULL

CN Carbamic acid, [(3R)-1-[7-(2E)-2-butenyl-1-[2-[2-  
[(chloroacetyl)amino]phenyl]-2-oxoethyl]-2,3,6,7-tetrahydro-3-methyl-2,6-  
dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA  
INDEX NAME)

Absolute stereochemistry.  
Double bond geometry as shown.



L19 ANSWER 8 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2004:127526 USPATFULL

TITLE: 8-[3-amino-piperidin-1-yl]-xanthines, the preparation thereof and their use as pharmaceutical compositions

INVENTOR(S): Himmelsbach, Frank, Mittelbiberach, GERMANY, FEDERAL REPUBLIC OF  
Langkopf, Elke, Warthausen, GERMANY, FEDERAL REPUBLIC OF  
Eckhardt, Matthias, Biberach, GERMANY, FEDERAL REPUBLIC OF  
Mark, Michael, Biberach, GERMANY, FEDERAL REPUBLIC OF  
Maier, Roland, Biberach, GERMANY, FEDERAL REPUBLIC OF  
Lotz, Ralf R.H., Schemmerhofen, GERMANY, FEDERAL REPUBLIC OF  
Tadayyon, Mohammad, Ulm, GERMANY, FEDERAL REPUBLIC OF

PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma GmbH & Co. KG, Ingelheim, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004097510	A1	20040520
APPLICATION INFO.:	US 2003-639036	A1	20030812 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2002-10238243	20020821
	DE 2003-10312353	20030320
	US 2002-409312P	20020909 (60)
	US 2003-461752P	20030410 (60)

Searched by Barb O'Bryen, STIC 2-2518

DOCUMENT TYPE: Utility  
 FILE SEGMENT: APPLICATION  
 LEGAL REPRESENTATIVE: BOEHRINGER INGELHEIM CORPORATION, 900 RIDGEBURY ROAD,  
 P. O. BOX 368, RIDGEFIELD, CT, 06877  
 NUMBER OF CLAIMS: 22  
 EXEMPLARY CLAIM: 1  
 LINE COUNT: 6652  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
 AB The present invention relates to substituted xanthines of general  
 formula ##STR1##

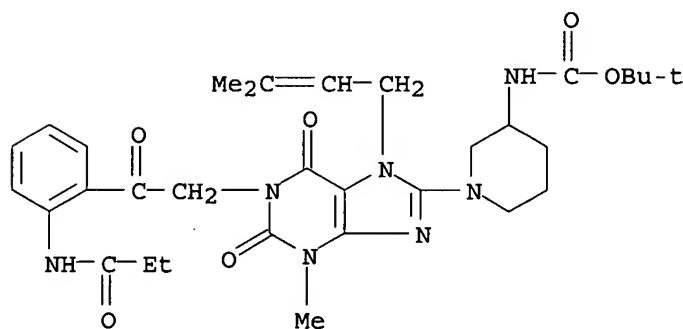
wherein R<sup>sup.1</sup> to R<sup>sup.3</sup> are defined as in claims 1 to 16, the  
 tautomers, the stereoisomers, the mixtures, the prodrugs thereof and the  
 salts thereof which have valuable pharmacological properties,  
 particularly an inhibiting effect on the activity of the enzyme  
 dipeptidylpeptidase-IV (DPI-IV).

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 668274-99-5P 668275-01-2P 668275-02-3P  
 668275-03-4P 668275-04-5P 668275-05-6P  
 668275-06-7P 668275-07-8P 668275-08-9P  
 668275-10-3P 668275-11-4P 668275-12-5P  
 668275-13-6P 668275-14-7P 668275-15-8P  
 668275-16-9P 668275-17-0P 668275-18-1P  
 (intermediate; preparation and inhibiting activity of 8-[3-aminopiperidin-1-  
 yl]xanthines against dipeptidylpeptidase IV)

RN 668274-99-5 USPATFULL

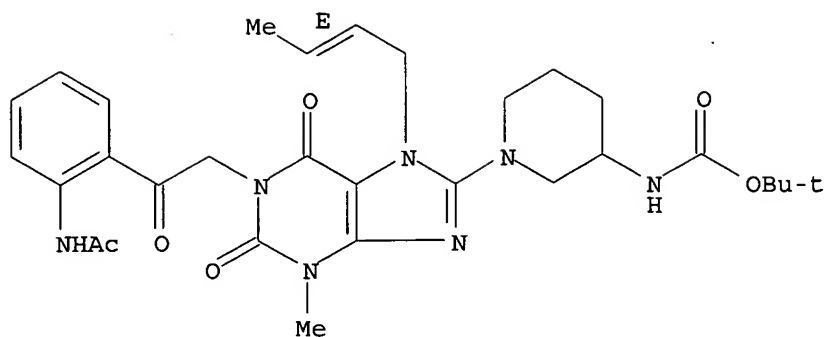
CN Carbamic acid, [1-[2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-  
 dioxo-1-[2-oxo-2-[2-[(1-oxopropyl)amino]phenyl]ethyl]-1H-purin-8-yl]-3-  
 piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 668275-01-2 USPATFULL

CN Carbamic acid, [1-[1-[2-[2-(acetylamino)phenyl]-2-oxoethyl]-7-(2E)-2-  
 butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-  
 piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

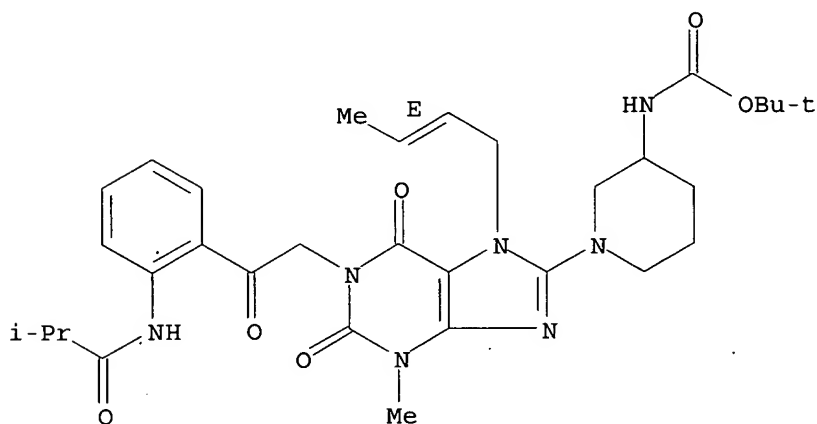
Double bond geometry as shown.



RN 668275-02-3 USPATFULL

CN Carbamic acid, [1-[7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

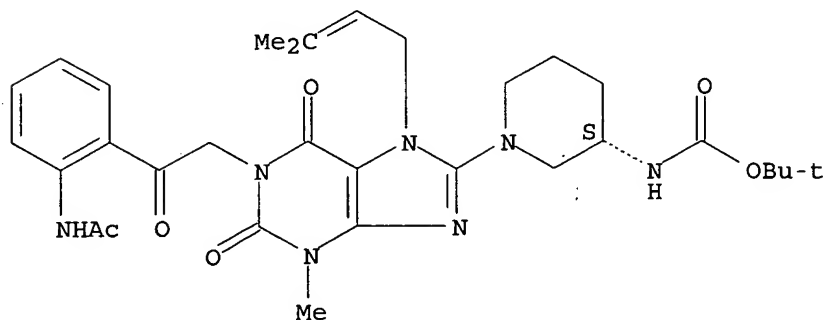
Double bond geometry as shown.



RN 668275-03-4 USPATFULL

CN Carbamic acid, [(3S)-1-[1-[2-[2-(acetamino)phenyl]-2-oxoethyl]-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

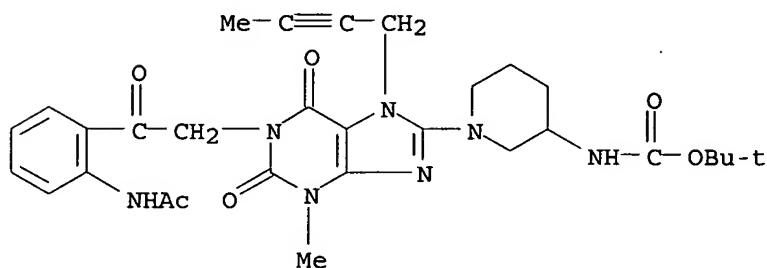
Absolute stereochemistry.



RN 668275-04-5 USPATFULL

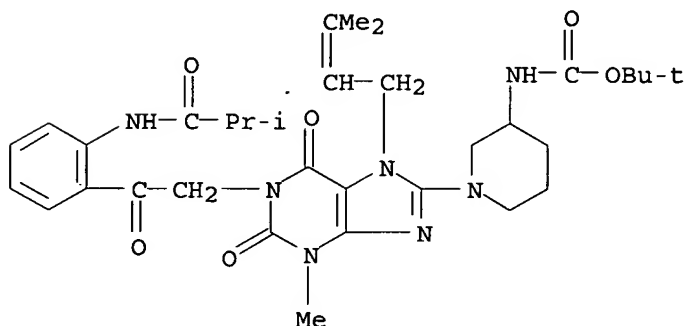


CN Carbamic acid, [1-[1-[2-[2-(acetylamino)phenyl]-2-oxoethyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidiny]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



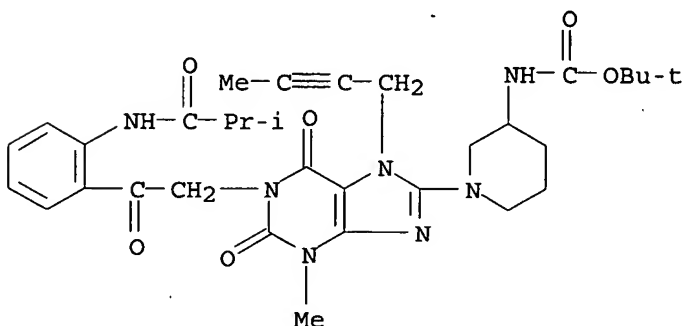
RN 668275-05-6 USPATFULL

CN Carbamic acid, [1-[2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidiny]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 668275-06-7 USPATFULL

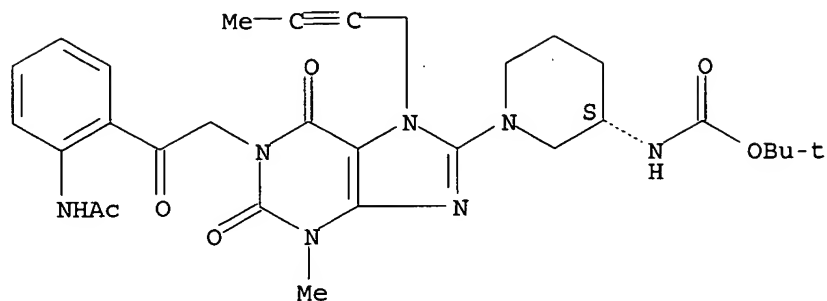
CN Carbamic acid, [1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidiny]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 668275-07-8 USPATFULL

CN Carbamic acid, [(3S)-1-[1-[2-[2-(acetylamino)phenyl]-2-oxoethyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidiny]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

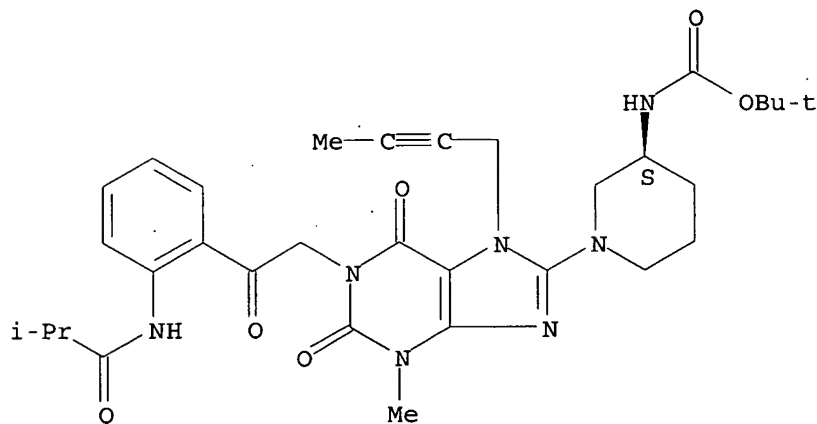
Absolute stereochemistry.



RN 668275-08-9 USPATFULL

CN Carbamic acid, [(3S)-1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidinyloxy]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

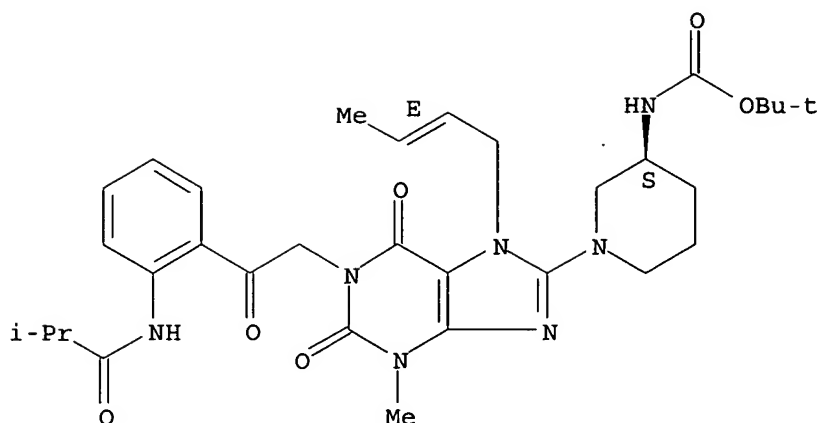
Absolute stereochemistry.



RN 668275-10-3 USPATFULL

CN Carbamic acid, [(3S)-1-[7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidinyloxy]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

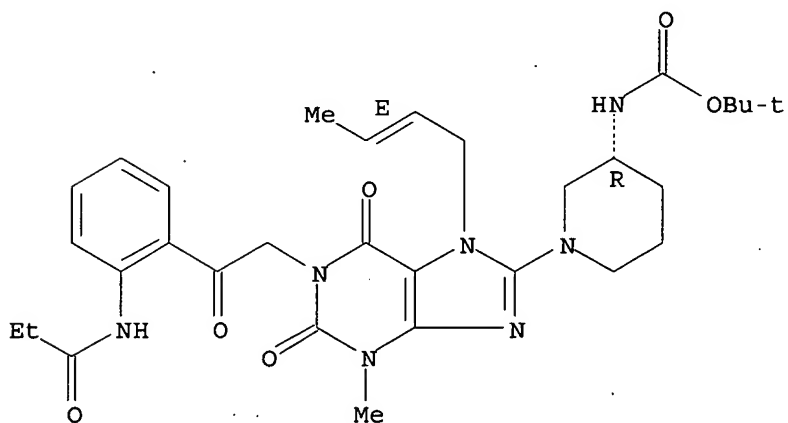
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668275-11-4 USPATFULL

CN Carbamic acid, [(3R)-1-[7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1-[2-oxo-2-[2-[(1-oxopropyl)amino]phenyl]ethyl]-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

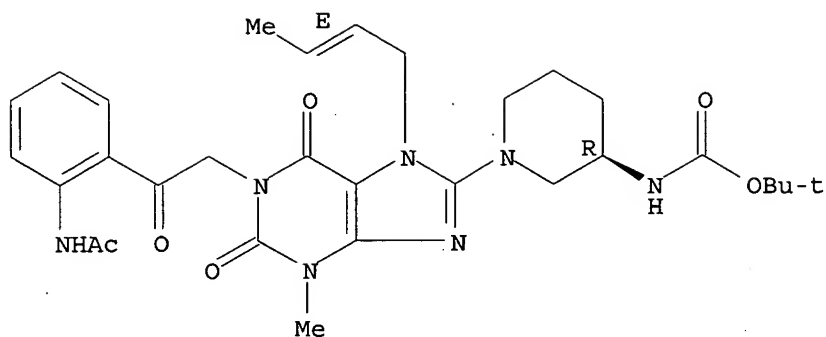
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668275-12-5 USPATFULL

CN Carbamic acid, [(3R)-1-[1-[2-[2-(acetylamino)phenyl]-2-oxoethyl]-7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

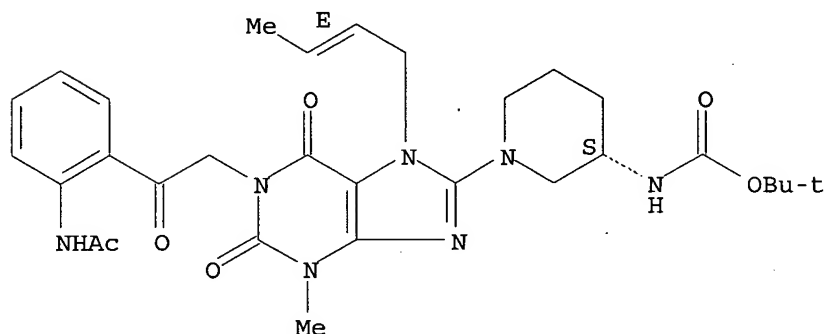
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668275-13-6 USPATFULL

CN Carbamic acid, [(3S)-1-[1-[2-[2-(acetylamino)phenyl]-2-oxoethyl]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidiny]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

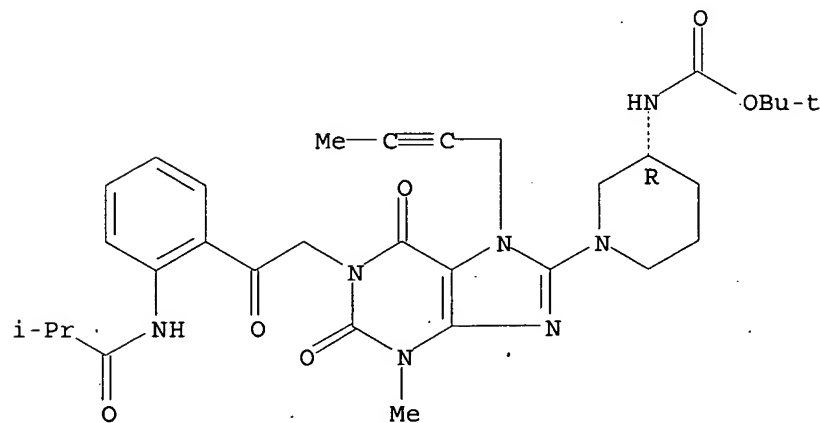
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668275-14-7 USPATFULL

CN Carbamic acid, [(3R)-1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidiny]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

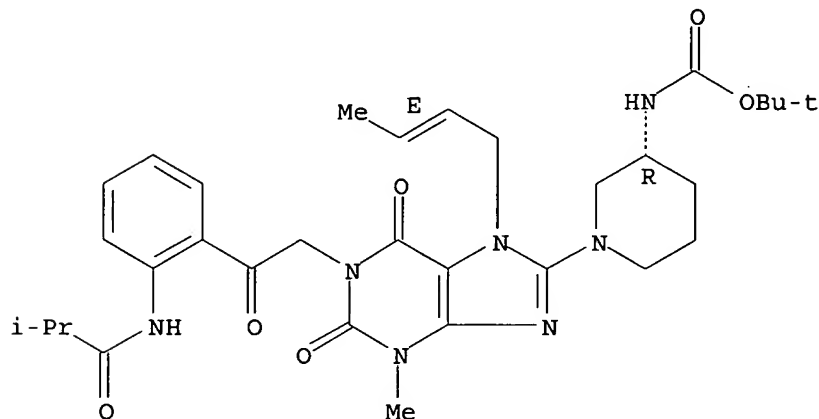
Absolute stereochemistry.



RN 668275-15-8 USPATFULL

CN Carbamic acid, [(3R)-1-[7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-1-[2-[2-[(2-methyl-1-oxopropyl)amino]phenyl]-2-oxoethyl]-2,6-dioxo-1H-purin-8-yl]-3-piperidiny]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

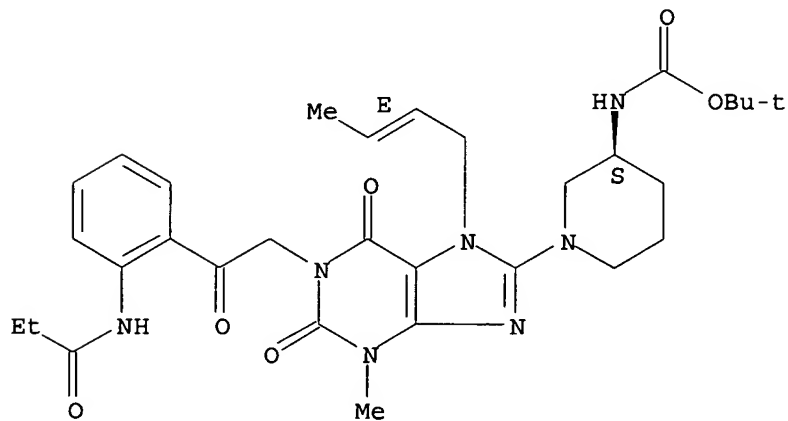
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668275-16-9 USPATFULL

CN Carbamic acid, [(3S)-1-[7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1-[2-oxo-2-[2-[(1-oxopropyl)amino]phenyl]ethyl]-1H-purin-8-yl]-3-piperidiny]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

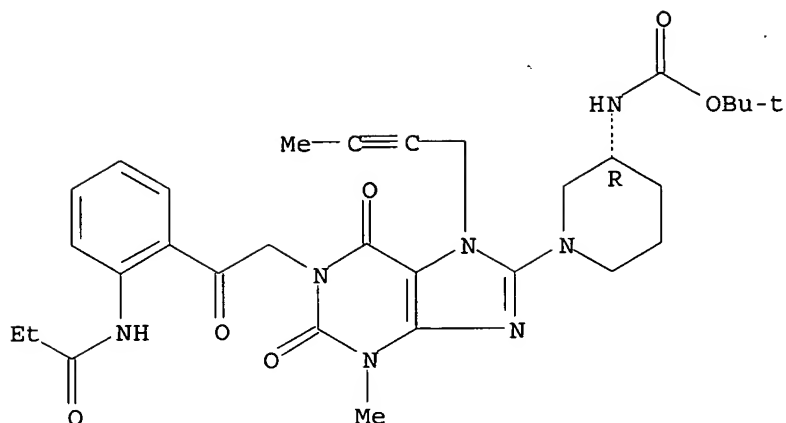
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668275-17-0 USPATFULL

CN Carbamic acid, [(3R)-1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1-[2-oxo-2-[2-[(1-oxopropyl)amino]phenyl]ethyl]-1H-purin-8-yl]-3-piperidiny]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

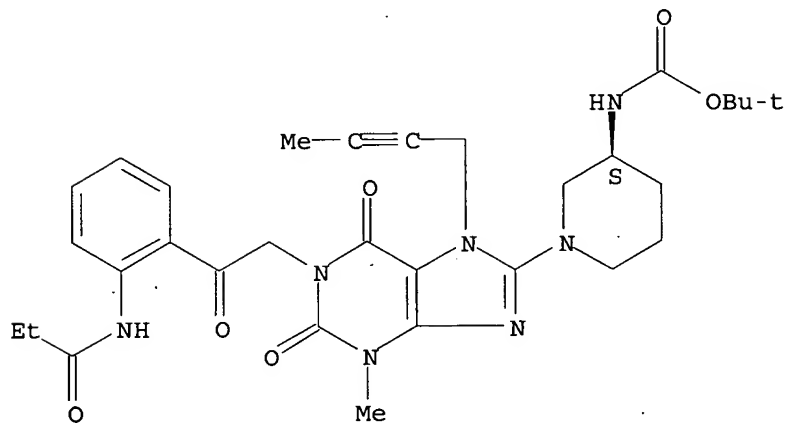
Absolute stereochemistry.



RN 668275-18-1 USPATFULL

CN Carbamic acid, [(3S)-1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1-[2-oxo-2-[2-[(1-oxopropyl)amino]phenyl]ethyl]-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

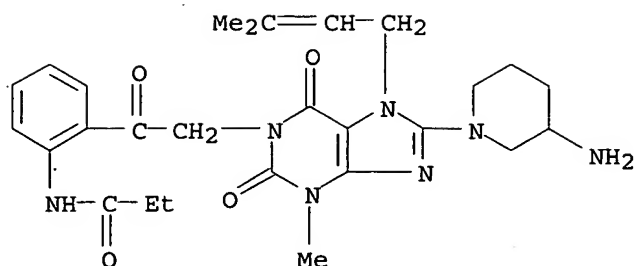


IT 668268-86-8P 668269-66-7P 668269-70-3P  
 668269-75-8P 668269-80-5P 668269-86-1P  
 668269-88-3P 668269-89-4P 668269-90-7P  
 668270-15-3P 668270-16-4P 668270-17-5P  
 668270-19-7P 668270-21-1P 668270-22-2P  
 668270-24-4P 668270-25-5P 668270-26-6P  
 668270-27-7P

(preparation and inhibiting activity of 8-[3-aminopiperidin-1-yl]xanthines against dipeptidylpeptidase IV)

RN 668268-86-8 USPATFULL

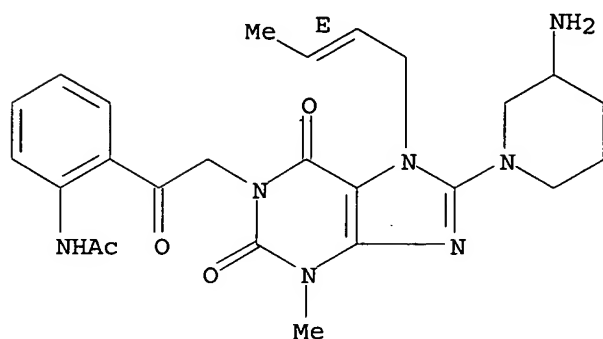
CN Propanamide, N-[2-[[8-(3-amino-1-piperidinyl)-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)



RN 668269-66-7 USPATFULL

CN Acetamide, N-[2-[[8-(3-amino-1-piperidinyl)-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

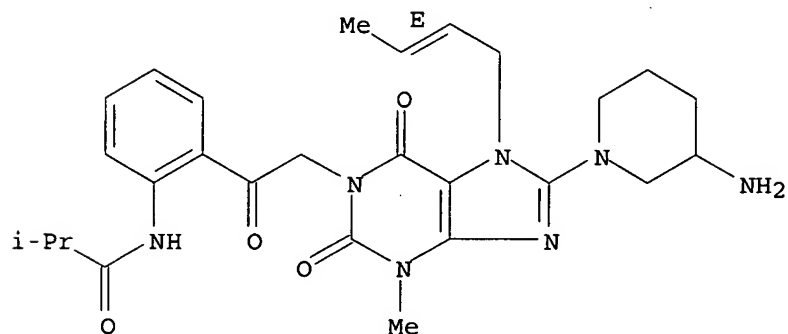
Double bond geometry as shown.



RN 668269-70-3 USPATFULL

CN Propanamide, N-[2-[[8-(3-amino-1-piperidinyl)-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)

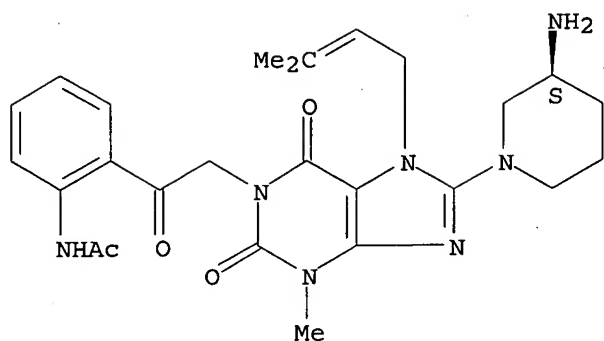
Double bond geometry as shown.



RN 668269-75-8 USPATFULL

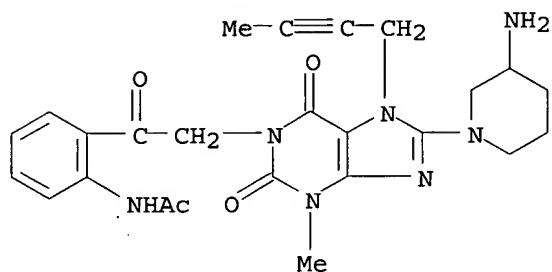
CN Acetamide, N-[2-[[8-[(3S)-3-amino-1-piperidinyl]-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



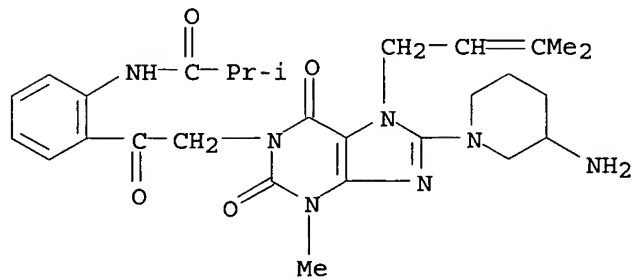
RN 668269-80-5 USPATFULL

CN Acetamide, N-[2-[[8-(3-amino-1-piperidinyl)-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)



RN 668269-86-1 USPATFULL

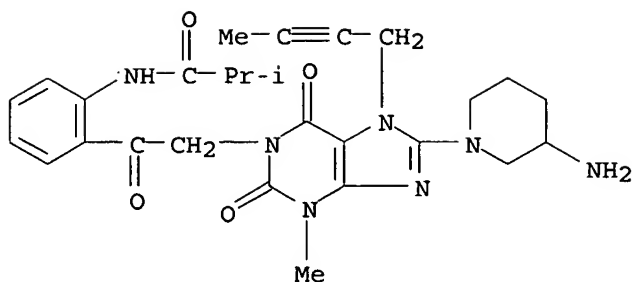
CN Propanamide, N-[2-[[8-(3-amino-1-piperidinyl)-2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)



RN 668269-88-3 USPATFULL

CN Propanamide, N-[2-[[8-(3-amino-1-piperidinyl)-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)

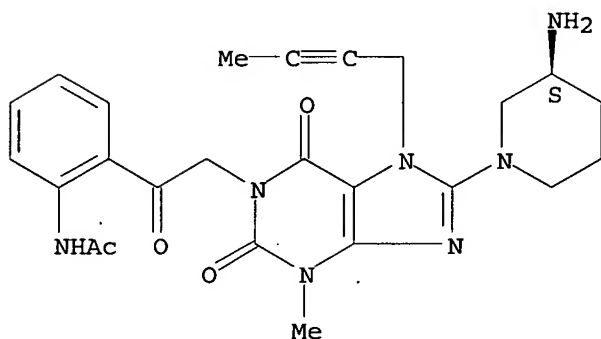




RN 668269-89-4 USPATFULL

CN Acetamide, N-[2-[[8-[(3S)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

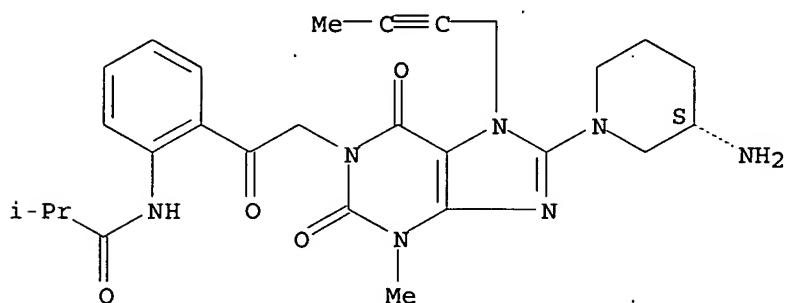
Absolute stereochemistry.



RN 668269-90-7 USPATFULL

CN Propanamide, N-[2-[[8-[(3S)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

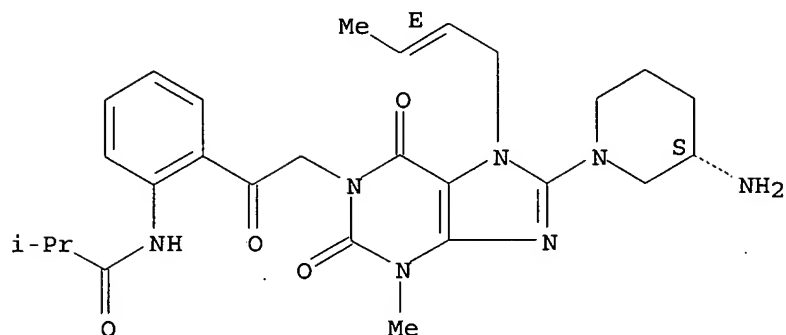


RN 668270-15-3 USPATFULL

CN Propanamide, N-[2-[[8-[(3S)-3-amino-1-piperidinyl]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

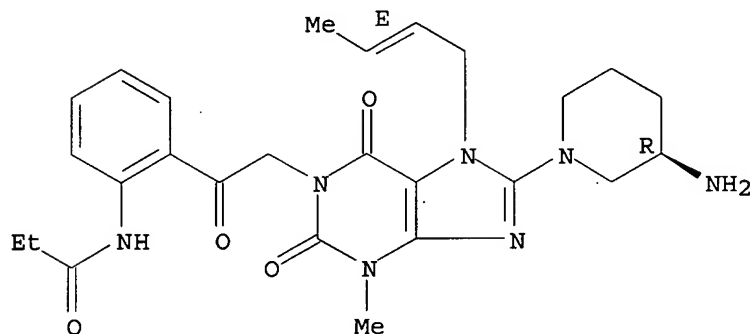
Double bond geometry as shown.



RN 668270-16-4 USPATFULL

CN Propanamide, N-[2-[[8-[(3R)-3-amino-1-piperidiny]-7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-(9CI) (CA INDEX NAME)

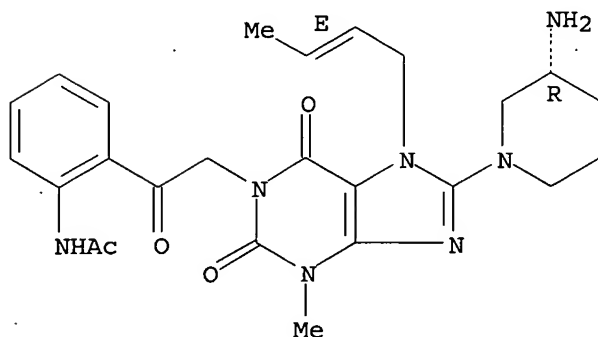
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668270-17-5 USPATFULL

CN Acetamide, N-[2-[[8-[(3R)-3-amino-1-piperidiny]-7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-(9CI) (CA INDEX NAME)

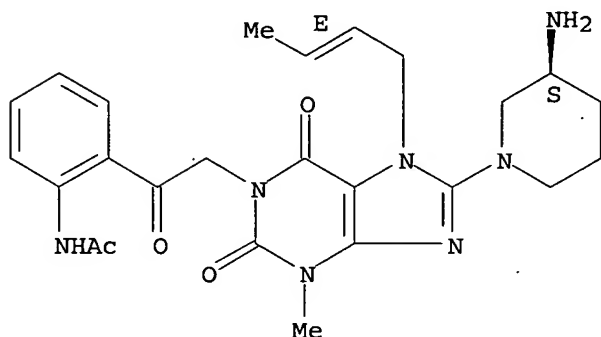
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668270-19-7 USPATFULL

CN Acetamide, N-[2-[[8-[(3S)-3-amino-1-piperidinyl]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

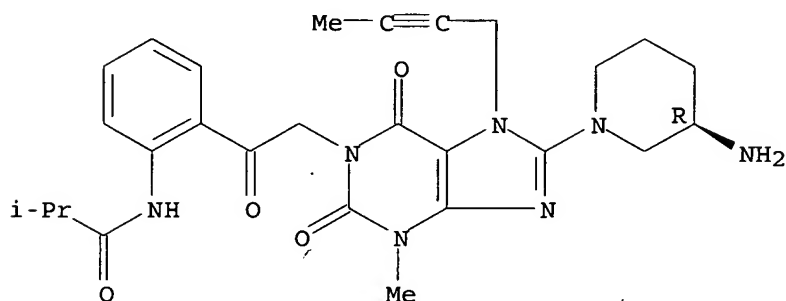
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668270-21-1 USPATFULL

CN Propanamide, N-[2-[[8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)

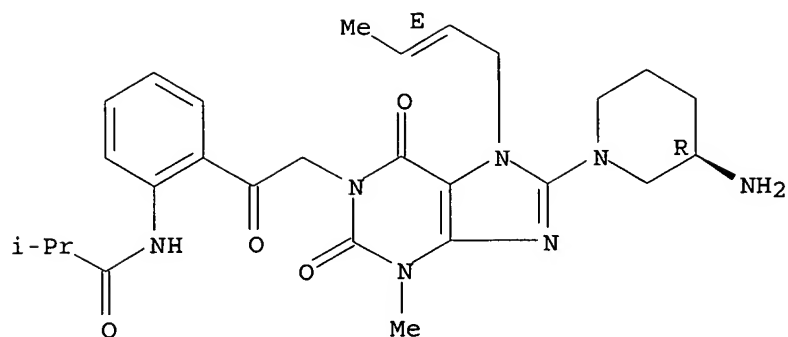
Absolute stereochemistry.



RN 668270-22-2 USPATFULL

CN Propanamide, N-[2-[[8-[(3R)-3-amino-1-piperidinyl]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]-2-methyl- (9CI) (CA INDEX NAME)

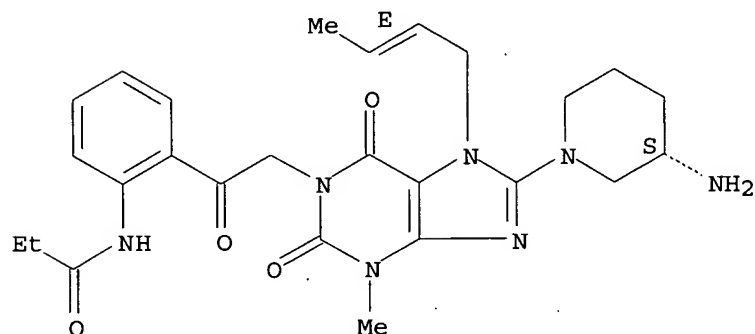
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668270-24-4 USPATFULL

CN Propanamide, N-[2-[[8-[(3S)-3-amino-1-piperidinyl]-7-(2E)-2-butenyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

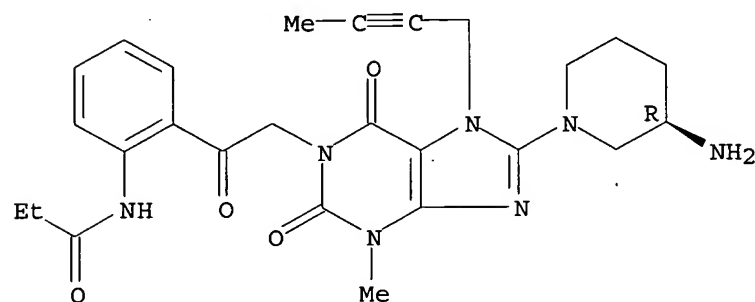
Absolute stereochemistry.  
Double bond geometry as shown.



RN 668270-25-5 USPATFULL

CN Propanamide, N-[2-[[8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

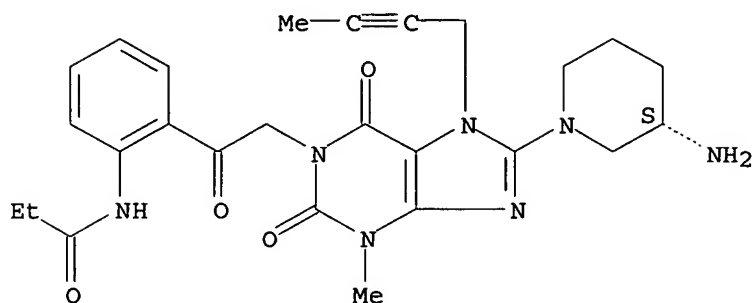


RN 668270-26-6 USPATFULL

CN Propanamide, N-[2-[[8-[(3S)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

INDEX NAME)

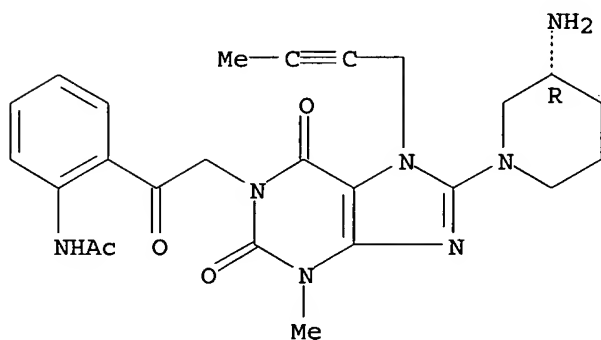
Absolute stereochemistry.



RN 668270-27-7 USPATFULL

CN Acetamide, N-[2-[[8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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